The Acceptance of Autistic Children Using Mobile Computing Devices in UK Christian Religious Spaces: An Interpretive Phenomenological Analysis of the Perceptions of Senior Clerics

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A thesis submitted in partial fulfilment of the award of

Doctor of Philosophy

Cardiff School of Technologies

Cardiff Metropolitan University

14th October, 2021

"Science is not only compatible with spirituality; it is a profound source of spirituality."

Carl Sagan

For our three beautiful children - Chrissa-Sophia Helena, Anastacia Callisto, Gabriel Alexandros. I will love you until the end of time.

Acknowledgements

Although we've not met, I would like to thank Prof. Tara Brabazon, Dean of Graduate Research and the Professor of Cultural Studies at Flinders University, Australia. I feel quite confident that her intellectual generosity through her vlogs played a huge role in motivating me to write this thesis.

Last, but, by no means least, I must thank my amazing husband, Theo, and our beautiful children. They provided both moral support and inspiration whilst I undertook this project. You are my everything and I am so lucky to have you all. I would also like to thank my wonderful parents, David and Helen Hathaway, who listened to me, supported me and encouraged me to complete this work. I don't know what I would do without any of them and this project has only been achieved because of them.

Abstract

This research aims to explore the acceptance of mobile computing technology use by autistic children within religious spaces by UK-based Christians. Using an interpretive phenomenological approach to exploring the views of senior clerics within three major UK-based Christian denominations, this research aims to identify the key themes that shape the acceptance of such use. It is intended that this research might raise awareness of any barriers to that acceptance whilst considering the opportunities associated with mobile technology use by autistic individuals in churches. This research contributes to the discourse in practical theology and church organisation theory and management, along with information systems and user acceptance. It is anticipated that the outcomes of this research may contribute to policy-making decisions by churches and other groups within the UK Christian community.

This research adopts an interpretive phenomenological approach to explore the attitudes and views of senior clerics within the Anglican, Roman Catholic and Eastern Orthodox denominations. It examines attitudes towards the use of mobile technology by autistic children in churches and other places of worship through the use of unstructured interviews (conversations with a purpose).

Through thematic analysis of the interview data, six emergent themes are identified, representing the key themes that shape the acceptance of mobile technology when autistic children use it in churches and religious settings. These are: *Inclusivity*, *Role of Clergy*, *Theological Thought*, *Purpose of Use*, *Digital v Analogue* and *Individual and Community*.

Participants in the study emphasise the UK Christian community's need and desire to consider the use of mobile technology as part of an inclusive culture, where autistic children and their families felt supported and have a sense of belonging. Mobile technology use is recognised as a positive tool to help autistic children. Given the wide range of styles of churchmanship (style of worship) and cultural characteristics of different groups, including within denominations, the influential role of clergy at a grassroots level was considered a key determinant in shaping the acceptance of mobile technology use in the local communities, mainly through the demonstration of good practice and raising awareness. The purpose of use is identified as being important, and that acceptance of mobile technology use in religious spaces may be subject to some caveats, primarily due to concerns around the potential for members of the churches to be distracted or distract others around them. Theological thought is identified as having a more indirect influence on the attitudes toward computing technology acceptance, along with the desire to include autistic children and their families in the life of the Church. An individual and the community's needs and expectations of worship events and the environment are recognised as playing a role in the acceptance of mobile device use within churches. The distinction is also made between the use of digital and analogue tools to support liturgical engagement and play.

Whilst barriers to the acceptance of mobile technology use within reli-

gious spaces exist, this research suggests that the desire to include autistic children and their families could serve as a strong motivator for the UK Christian community to consider or address potential barriers to acceptance. Recommendations are also included for further research work to be conducted in this area and for the consideration of the Christian community, particularly church leadership and policymakers.

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Chapter 1

Introduction

1.1 Introduction to the Research

This research adopted a qualitative approach, through interpretive phenomenology, to gain insight into the views of the UK Christian community towards autistic children using mobile computing devices within religious spaces. This included churches and places of worship within the community, including liturgical settings. This includes Mass, liturgy, weddings, funerals or any other event of shared worship. As an exploratory study, the aim of this research is to identify the themes that shape mobile technology acceptance by the UK Christian community when it is used by autistic children in spiritual settings. Although this research explores technology acceptance, by adopting a qualitative and interpretive phenomenological approach to explore the attitudes of *observers* of users, it does not use traditional models of technology acceptance, such as TAM (F. D. Davis 1989) or UTAUT (Venkatesh, Morris et al. 2003), which typically focus more specifically on the experiences and

needs of the user, rather than the observer of the use.

1.1.1 Autism and Mobile Technology

According to the National Autistic Society (National Autistic Society 2020) there are around 700,000 individuals living with autism in the UK, which represents approximately 1% of the population. Rates of diagnoses are increasing and while the reasons for an increase in autism diagnoses across the world are not entirely clear, better recognition of autism by parents, educators and healthcare professionals is likely to be a key factor (Roman-Urrestarazu et al. 2021).

Clinical understanding of autism has evolved significantly over the 20th and early 21st centuries (Wing, Gould and Gillberg 2011; Baron-Cohen et al. 2018) and autism is now considered to be a spectrum condition of atypical neurophysical development (American Psychiatric Association 2013), the symptoms of which can vary considerably amongst individuals. Autism is considered a disorder of impairments in social-emotional reciprocity, non-verbal communication skills and the ability to maintain and understand social relationships (ibid.). While autism is considered a disability based on impairments, there is a growing recognition of autism as part of human neurodiversity (Kapp, Gillespie-Lynch et al. 2013; Brown et al. 2021). There is also a growing sense of identity around autism as a characteristic amongst many in the autistic community (Guelph Mercury 2010; Seers and Hogg 2021). While the focus of this project is on children, Autism Spectrum Disorders (ASDs) are lifelong developmental conditions, with the symptoms experienced by individuals sometimes varying over the course of a person's lifetime (National

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Autistic Society 2021).

Given the growing number of diagnoses, autism continues to present a pressing public health concern to countries across the world. While more recent figures do not appear to have been published, Knapp, Romeo and Beecham (2009) estimated that the annual cost of supporting autistic children in the UK was 2.7 billion pounds Sterling each year, with the estimated lifetime cost of supporting an autistic person with an intellectual disability as being around 1.23 million pounds and 0.8 million pounds for those without such an impairment.

Mobile Computing Technology and m-Health

Within the context of this research, *mobile computing technology* refers to portable touchscreen computing devices with a sole focus on smartphones and tablet computers. Whilst other portable computing devices are not considered as part of this study (e.g. laptop computers, including those with touchscreen interfaces, or wearable technology), further research might confirm whether the themes shaping the acceptance of mobile computing technology in the context of supporting autistic children in religious spaces might also apply to all technology use.

m-Health (Mobile Digital Health) refers to mobile health solutions that are a key component of participatory and distributed healthcare. Whilst there is no firm definition of m-Health, there is a general focus within m-Health research on mobile applications or apps (Cameron, Ramaprasad and Syn 2017) that support mobile health and wellness management. This research does not explicitly focus on m-Health but does consider such solutions

as part of a wider range of potential applications of use by autistic children and their families within religious settings. As a consequence of the impact on autism-related healthcare and educational services, and with a global consideration of the benefits of distributed healthcare models, there is a growing interesting in how m-Health (Mobile digital health) (Thummler 2015) solutions can provide therapeutic and diagnostic support for autistic children and adults. It is important, then, that such solutions can be deployed effectively within a wide range of contexts, including religious and spiritual settings

More broadly, mobile technology is prevalent in society and, therefore, represents the potential for affordable, portable, discreet and engaging solutions to collecting evidence of autistic behaviours (Anzulewicz, Sobota and Delafield-Butt 2016). It can also support play, speech and language development, and sensory support. Indeed, autistic children have been shown to have a natural affinity for digital mobile technology (Benton et al. 2012), meaning that many autistic children enjoy using such devices and software.

Given the broad range of potential applications for mobile computing devices to meet the significant variation in the unique needs of each autistic individual, this research does not focus on specific types of use. Instead, it focuses on the use of such devices. Nevertheless, it is clear from the growing prevalence of distributed healthcare models (Thummler 2015), along with m-Health solutions, that there will be a growing imperative to understand the acceptance of the use of mobile computing devices within multiple contexts. This will help to ensure that the potential benefits of such solutions are maximised.

1.1.2 Autism and the Church

Impairments in social-emotional reciprocity and communication skills can result in significant social isolation for autistic children, along with their families and carers (Kasari et al. 2011). In turn, this can contribute to the autistic child and carer experiencing serious negative mental health outcomes, including depression and anxiety disorder (Peters et al. 2011). Social isolation, for both the autistic individual and the families who love and care for them, may also compound a sense of stigma, whether real or perceived. Good access to friend and familial support, however, has been associated with improved mental health outcomes, reduced stigma and perceived quality of life for both autistic individuals and their families (J. Dunn 2004; Mak and Kwok 2010).

Religious expression and engagement has also been shown to benefit the well-being of carers and parents (Webb et al. 2011). Research, albeit limited, has also shown that autistic people value the opportunity to engage in spiritual expression and want to be included in religious communities but can feel that such needs are overlooked (Bustion 2017; Hills, Clapton et al. 2019).

As a religion, Christianity places considerable importance on the concept of inclusion for all, regardless of whether they are disabled or not. Indeed, this is part of the ontological framework that shapes Christian thought (Swinton and Trevett 2009; Kinnard 2019). According to the 2011 England and Wales national census, 58% and 59% of the population of Wales and England respectively, identified as being Christian. In numbers, this represents 33.2 million people (Office for National Statistics 2012). While not all of these Christians will be active church members, it is clear that the UK Christian

community is substantial in size and can represent an important opportunity for community, fellowship and support for those on the autism spectrum and their families.

1.1.3   Rationale for this Research

The rationale for this research, which explored the themes shaping mobile technology acceptance in churches, included:

Improved understanding of the acceptance of mHealth in spiritual settings

mHealth solutions can provide affordable therapeutic support to autistic children and their families, either through the use of specifically designed supportive applications or through play behaviours. Applications are also emerging that support an evidence-based diagnosis, which depend on capturing data to show autistic behaviours. In order for these applications of mobile technology to be most effective, however, they need to be deployed in multiple everyday settings. As the use of mHealth solutions becomes more prevalent, the UK Christian community may wish to develop policies or guidance for its membership regarding its use within religious spaces.

The output of this research, then, may contribute to the discourse around assistive technology acceptance within religious settings, not only for autism, but for other health conditions, too. This study could be further developed, adapted and extended to explore acceptance within other religious groups or countries.

Facilitating social and religious inclusion of autistic children and their families

Autism is often co-morbid with other health conditions, including mental health conditions. The consequences of these can be especially severe, in some cases, including significant levels of anxiety, depression and suicidality (Zahid and Upthegrove 2017; Sharma, Gonda and Tarazi 2018). The social inclusion of autistic children and their families can help, then, to reduce stigma and has been shown to have associated improved health outcomes, including mental health outcomes. The considerable size of the UK Christian community, who have a strong desire to be inclusive, represents an opportunity for autistic children and their families to access important personal, spiritual and pastoral support, as well as a sense of belonging. This might be particularly important for autistic children and their families who may be living far away from traditional familial support.

An improved understanding of how mobile technology is accepted in church settings may help facilitate a greater inclusion of autistic children and their families in religious communities, while improving opportunities for spiritual expression for autistic children.

Supporting the UK Christian Community's Desire for Inclusivity

Due to the relative novelty of mobile technology, formal policy and institutional dialogue within the UK Christian Community, appears to be in its infancy. This has, perhaps, been brought to the fore as a consequence of the COVID-19 pandemic, where many churches and members of the congregations began to adopt the use of digital technology as part of their religious

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practice for the first time.

The output of this research, then, may contribute to the discourse within the UK Christian Community about approaches to sensitive inclusion and acceptance of mobile and digital technology in liturgical settings, particularly when used in an assistive capacity. The UK Christian Community has a strong desire to be inclusive to autistic people but barriers to such inclusion can exist. The acceptance of mobile technology use within churches may facilitate or improve the inclusion of autistic children. The output of this research could help inform the policy making decisions within the UK Christian churches, while also shaping practice and improving confidence at a local and grassroots level.

1.2   The Aim of the Study

This research aimed to identify and understand the various themes that influence the acceptance of mobile technology by the UK Christian community when it is used by an autistic child and their family. This is achieved through the phenomenological analysis of the views of senior clerics in different denominations. Such use may be with the intention of facilitating the child's own worship and spiritual expression, as a therapeutic tool or with the purpose of providing other forms of social and sensory support. By extension, this can also support the inclusion of families and caregivers. The research question was: "What are the themes that shape the acceptance of mobile technology use by the UK Christian community when it is used by autistic children and their families in religious spaces?"

This research does not produce a quantitative or algorithm-based model indicating causality of acceptance which might allow for factor analysis. There is a holistic overview of the interplay between the themes identified in this research that have relatively equal-weighting. This research, then refers to *themes* that shape technology acceptance, rather than factors.

1.3   Original Contribution to Knowledge

The inter-disciplinary nature of this body of work contributes to the corpus of literature within the disciplines of practical theology, church organisation theory and information systems.

The output of this research and the original contribution to knowledge is a set of themes that represent those themes shaping the acceptance of mobile technology by the UK Christian community when it is used by autistic children and their families, specifically, within churches and places of worship.

The intended audience for this thesis could include:

- **Autism Support Groups** - With the growing prevalence of mobile computing devices acting to support play behaviours or in an assistive and therapeutic capacity, an understanding of the acceptance of such uses with multiple contexts can help provide such organisations in providing support to autistic people, along with their families and carers. This may be of particular importance in spiritual settings given the associated benefits of religious and spiritual expression to autistic individuals and those who care for them.

- **Church Organisations** - Given that there is a strong desire to create an inclusive environment for all people, including autistic people and those who care for them, the output of this research could help support key decisions that are made within the Churches, particularly in relation to policy and practice. Further to fulfilling a mission of inclusion, the output of this research may also provide some support to Churches in terms of meeting their legislative obligations with regards to accessibility.

- **User Acceptance Research** - This thesis is intended to make a contribution to the corpus of literature around user acceptance of mobile technology within society, and particularly within religious and spiritual contexts. The literature around the acceptance or use of computing technology within spiritual and religious contexts is limited. This work also contributes to the literature around the acceptance of mobile technology when it is used in an assistive capacity.

- **Practical Theology** - Whilst this thesis is not a theological study, this research draws on theological concepts in the data and analysis. According to Osmer (2005 as cited in Glassford (2012, p. 173)) practical theology can be considered a branch of Christian theology that "seeks to construct action-guided theories of Christian praxis in particular social constructs". This thesis, then, makes a contribution to the corpus of literature in practical theology regarding the views and attitudes towards mobile technology acceptance within Christian religious settings, especially when used to support autistic individuals.

1.4 The Contents of This Thesis

Chapter 2 - The Literature Review

This chapter contains a critical review of the subject-related literature, with the intention of providing an organising framework for the exploration of themes that might shape the acceptance of mobile technology use by autistic children and their families in UK Christian churches. Broadly, it explores the literature around the definition and symptoms of autism spectrum disorders; autism and mobile technology, including therapeutic applications and diagnostic support; the relationship between autism and the Christian community, including autistic people's views on spirituality; the relationship between the church and mobile and digital technology. While traditional models of technology acceptance are not used in this study, the chapter concludes with a short introduction to some of the key models supporting technology acceptance research.

Chapter 3 - Methodology

The methodology chapter introduces interpretive phenomenological analysis, along with the philosophical thought that underpins in. It outlines the methodological techniques that have been deployed in undertaking this research. The chapter also includes a justification as to why an IPA approach has been adopted for this study, the approach to sampling and data collection, along with a description of the thematic analysis that was conducted during the research.

Chapter 4 - Results: The Anglican Church

This chapter contains the data collected during an interview with a senior Anglican cleric from his perspective of being a Diocesan Bishop and Archbishop within the Anglican Communion. It also provides observational comments on the contents of the interview, along with the identification of the emergent themes that were also identified during the analysis.

Chapter 5 - Results: The Eastern Orthodox Church

This chapter contains the data collected during an interview that was conducted with an Eastern Orthodox Metropolitan Archbishop in the UK. It also provides observational comments on the contents of the interview, along with the identification of the emergent themes that were also identified during the analysis.

Chapter 6 - Results: The Roman Catholic Church

This chapter contains the data collected during an interview that was conducted with a Roman Catholic Bishop in England. It also provides observational comments on the contents of the interview, along with the identification of the emergent themes that were also identified during the analysis.

Chapter 7 - Analysis of Results

Chapter 7 includes an analysis and discussion around the six emergent themes (Inclusivity, Role of Clergy, Theological Thought, Purpose of Use, Digital v

Analogue, Individual and Community) that were identified during the thematic and interpretive analysis of the interview data that was collected during this study. This chapter draws on the interpretation of the researcher, the interview data and supporting literature.

Chapter 8 - Conclusion

The concluding chapter of this thesis summarises the outcomes of the research, whilst providing some suggestions for consideration by the UK Christian community regarding the role of mobile technology in supporting autistic children and their families. It also summarisessome of the barriers and opportunities that may shape acceptance by the Christian community.

The chapter also includes a reflective and reflexive account of the research, from both personal and methodological perspectives. There is also a call for further research into the area of mobile technology acceptance within religious settings, along with some suggestions for future developments of this body of work.

1.5   Use of Language and Terminology

The use of terminology relating to autism and individuals on the autism spectrum in this thesis is, to some extent, driven by the literature and participants in the study. Consistencies are maintained where possible. It should be noted, however, that the use of language and references to autism and the autism spectrum are becoming increasingly contentious, particularly within the autism community itself and in some academic circles. Due to this

evolving and ongoing conversation around the use of language, this section has been included to outline the rationale for the choice of language used in this thesis.

1.5.1 Autism, Autism Spectrum Disorder and Disability

The view of autism as a spectrum condition is reflected in the research literature and medical sources use both *Autism Spectrum Disorder* and *Autism Spectrum Condition*. Autism Spectrum Condition is increasingly being the preferred description by many in the wider autism community. Given that Autism Spectrum Disorder is extensively used in the literature to reflect the current definition in both the DSM-V, ICD-10 and ICD-11 diagnostic manuals, *autism* and *autism spectrum disorder* will be used for consistency in this thesis. The exceptions to this will be confined to direct quotations from literature or participants. *Autism*, *autism spectrum disorder* and *ASD* are used interchangeably and should be regarded as the same thing.

Given the interpretive approach to this research, it is also important to note that many in the autism community feel that autism should be viewed as *difference* rather than as a *disorder*. Indeed, for some, it is an important and integral part of their identity. Consequently, some contention over the term 'disability' may be encountered. This thesis, however, will consider and refer to autism as a disability, characterised by the presence of certain deficits and in line with the World Health Organisation's definition. This is done for the purposes of accurate reporting of the literature.

The issue of the identity of autism is further discussed in the concluding chapter of this research (Chapter 8.2.5).

1.5.2 High-Functioning Autism (HFA) and Low-Functioning Autism (LFA)

The terms *High Functioning Autism* and *Low Functioning Autism* are commonly used by the general population to describe the various presentations of individuals on the autism spectrum, with people with low-functioning autism having impaired intellectual capacity and poor ability to speak, whilst people with high-functioning autism may be regarded as having the capacity to live a relatively normal life, have average to high IQ and an ability to engage in speech. These terms do not reflect the true nature of the autism spectrum and, consequently, these terms are increasingly being abandoned by medical professionals and by those in the autism community. Such terminology can be regarded by many as judgemental and do not necessarily reflect the true experiences of those on the autism spectrum. High-Functioning Autism and Low-Functioning Autism are not medical terminology and do not appear in diagnostic manuals. Consequently, such terms are not be used in this thesis unless they appear as direct quotations.

1.5.3 "Person First" Terminology

The use of "person first" terminology in relation to autism is subject to ongoing debate but it is the preferred mode of reference for many amongst the autism community. In the case of this thesis, the autistic child and child

with autism may be used interchangeably, with a preference for the former, rather than the later.

1.5.4   Terminology within the Context of Christianity

Some terminology relating to the UK Christian community may be more specifically applied to particular denominations. In the case of this thesis, where the Christian community is viewed holistically, some of these terms are used interchangeably. For the purposes of this research:

Liturgical Settings - this refers to a point in space and time where an act of shared worship, typically being led by a cleric, is taking place. This could be *liturgy, Mass* or any other type of *service.*

Spiritual Settings - as *Liturgical Settings* but may be more widely applied to encompass any religious space or practice.

Congregation, Membership - interchangeable terms to refer to the wider membership of the church, including the laity. This refers to non-clerical members of the Christian community and individual parishes.

Parish - although a term not applied in every denomination, the use of the term parish in this thesis refers to any local-level group of worshipers within any denomination.

Cleric, priest, clergy - Depending on the denomination of the UK Christian community, these terms may be distinct. In the case of this study, however, *clergy* and *priests* are referred to interchangeably due to the commonality between the roles within the participating denominations. Clergy

is the preferred term in this thesis. *Cleric* is applied more broadly to apply to include all roles of similar authority within all denominations.

Chapter 2

Literature Review

This chapter contains a critical review of the literature, with the intention of providing an organising framework for the exploration of factors that might shape the acceptance of mobile technology use by the UK Christian community when it is used by autistic children in religious spaces.

The literature review begins by considering the contemporary definition of autism, as outlined in the World Health Organisation's ICD (International Classification of Diseases) manual and the United States' DSM-V. It will also consider the evolution of the understanding of autism since its identification in the early 20th century. In considering both contemporary and historical definitions of autism, some context is given for how wider perceptions of autism in society may vary today, along with how these views may have evolved and been shaped over the years.

It is important to note that medical definitions of autism often have a significant focus on the identification of impairments, which typically repres-

ent the diagnostic criteria for autism. Consequently, this is reflected in the literature review as an accurate reflection of the corpus of literature. This viewpoint is countered, where appropriate, by a more positive focus on the advantageous and rewarding aspects of autism, both for the autistic individual and those around them (Kayfitz, Gragg and Robert Orr 2010; Potter 2016). While such positive perspectives are recognised where applicable, the use of terminology around impairments remains a prominent feature in the discourse. Macaskill (2019) suggests, whilst it is important to recognise the strengths and positive experiences of autistic individuals and their families, that the challenges that can be experienced should also be considered and not overlooked, nor underestimated.

Within this chapter, there is also a focus on the potential therapeutic applications of mobile technology in the support of autistic children and their families, along with consideration of the affinity for technology that is often, although not invariably, a feature of play behaviours for autistic children.

The literature review explores some of the key literature regarding the inclusion of autistic children and their families in UK Christian churches, whilst acknowledging some of the barriers to inclusion that may exist, along with opportunities for the community that might emerge from inclusion.

Consideration of existing relationships between mobile technology and the UK Christian community are also included, along with a reflection of an evolving acceptance of such technology within churches. The COVID-19 pandemic has accelerated the adoption of digital technologies for many communities in the UK and, indeed, across the world. The potential impact of the COVID-19 pandemic on the UK Christian community's relationship with digital and mobile technologies, therefore, is also considered within this

chapter where applicable.

It must be emphasised that, whilst this project is not a theological critique, it is important to consider some theological thought that may influence the views of the Christian community. Theology is a vast and complex area of philosophical thought and so this chapter contains a brief outline of how it might shape views towards autism, mobile technology and its subsequent acceptance within churches and spiritual practice. This is included to help frame motivational factors that may drive acceptance of mobile technology in a supportive and assistive capacity.

Finally, whilst not applied within this research, the literature review briefly considers key models of technology acceptance that are commonly used within the discipline of technology acceptance and information systems study.

2.1 Autism: Symptoms and Diagnosis

2.1.1 Early Definitions of Autism

Perceptions and understanding of autism and the autism spectrum have changed significantly since it was first identified in the early 20th century, but the history of the definition of autism and its clinical recognition dates back to the 1940s. There is now a recognition of autism as part of a complex array of human neurodiversity (Akhtar and Jaswal 2013; Callanan and Waxman 2013; Kapp, Gillespie-Lynch et al. 2013; Brown et al. 2021) and understanding of autism continues to evolve to this day. As a consequence,

it might be expected that attitudes and beliefs about autism within the wider population will vary and that this, in turn, may influence attitudes towards acceptance and inclusion of autistic children and their families, including within UK churches.

Leo Kanner

During the early 20th century, health care professionals including physicians, psychiatrists and psychologists, who were involved in the field of abnormal child development, attempted to categorise childhood psychoses (Silverman 2011; Harris 2018). One of those first credited with the identification of autism in 1943 was Ukrainian-American Leo Kanner, whose observations noted children with autism often displayed language delays, literalness, inability to use language for effective communication and a desire for solitude and engagement with their environment only when they wanted to (Harris 2018). This observation differentiated these children from those who were experiencing schizophrenia, a condition which, although similarly characterised by poor social functioning, is also characterised by a reduced control of the perception of reality, including psychosis, hallucinations and delusions. Whilst psychosis can occur with autism, it is usually as a consequence of co-morbid mental health conditions such as depression (American Psychiatric Association 2013; National Health Service 2019).

Influenced by psychoanalytical theories at the time, Kanner believed that autism might have been as a result of detached and rigid parenting and that there was an absence of pathology in the brain. Kanner (1945 p.420 *as cited in Holaday (2012)*) in a study of 55 children noted that the children

all appeared to be outwardly healthy but he also noted his observations of their adult relatives, observing, "it is even more remarkable that almost all adult relatives have been rather successful in their chosen careers. The fathers are scientists, college professors, artists, clergymen, business executives; there are a few psychologists and psychiatrists among them.... All but five of the mothers of the 55 children have attended college". Noting his observation of the apparent common features amongst the parents of the children in his study, he went on to describe the parents as "refrigerators" and "undemonstrative". This criticism, particularly targeted towards the mothers, has contributed to an enduring stigma and suspicion of parental blame around autism in some cases (Farrugia 2009; Stace 2010).

Contemporary medical understanding of autism, however, now challenges such views of parenting, where it is now understood that genetics may play a key role in the presence of autism in children (Yin and Schaaf 2017). The parents of some of those children in Kanner's study may well have been on the autism spectrum or have displayed characteristics of autism. Indeed, where signs of autism (autistic traits) are seen in individuals but are at a level that may be below the threshold of diagnosis, this is referred to as Broader Autism Phenotype (BAP) and is frequently observed in parents of autistic children (Hartley et al. 2019; Rea et al. 2019) at a rate that is significantly higher than that of the general population (Hartley et al. 2019) (see Section 2.2.3).

Hans Asperger

At around the same time that Kanner conducted his studies, Hans Asperger, an Austrian physician, published a doctoral thesis in 1944 based on his

observation of four children (boys) who demonstrated unusual behavior in terms of their socialisation, linguistics and cognitive abilities (Czech 2018). Describing this as autistic psychopathy, he considered it as a disorder of the personality (Verhoeff 2013; Barahona-Corrêa and Filipe 2016). The children were studied within the context of Nazi policies, where children with disabilities and intellectual impairments were frequently euthanised in Austria at the time. Where these children with higher IQs were considered potentially useful to the Reich, they were subject to further interest (Baron-Cohen et al. 2018). More recently, however, it has been suggested that Asperger had identified the essential traits of Asperger Syndrome by 1938, suggesting that Asperger may not have actively assisted in the Nazi euthanasia programme (Baron-Cohen et al. 2018; Falk 2019).

Asperger's work, whilst coinciding in time with Kanner's, was largely ignored until shortly after his death in 1980. During his lifetime, however, he continued to treat children with autistic psychopathy and established a remedial ward for children with the condition (Attwood 1998; Czech 2018).

Asperger's work contrasted with that of Kanner in that, whilst they both described similar deficits in social interaction and communication, Asperger's work described children that were seemingly more able (Attwood 1998). This would later lead to the term Asperger Syndrome being adopted to describe those children who presented with symptoms of autism but without the language deficit. For some medics and people in the autism community, the term Asperger Syndrome carries a stigma because of the links to Nazi policy, and it is sometimes criticised as being an elitist diagnosis (Guelph Mercury 2010; Giles 2014). In 2013, the US DSM-V dropped Asperger Syndrome from their diagnostic catalogue (American Psychiatric Association 2013), al-

though this term persists in common use today. Whilst there is a growing stigma surrounding the term within the autism community, some still openly use Asperger Syndrome to describe their autism and as a reflection of their diagnosis that they were given (Giles 2014).

Lorna Wing

Lorna Wing was a UK-based psychiatrist who abandoned her work on electrophysiological studies of mental health conditions to study autism shortly after her and her husband's daughter was identified as having 'Kanner's autism' (Watts 2014). Her husband, John Wing, was also a psychiatrist and they studied children with various special needs and recognised that children could present with features of autism quite differently. Working with Gould, Wing contributed to the establishment of the triad of impairments (Wing and Gould 1979), which are impairments in social relationships, social communication and social understanding.

The triad of impairments would then be used as part of the recognition and diagnosis of autism until the 2013 publication of new diagnostic criteria (American Psychiatric Association 2013). Discovering the work of Hans Asperger, Wing (1981) noted that these children who presented as "higher functioning", too, lay on the spectrum but at the opposite end to Kanner's Autism (Watts 2014). It should be noted at this point, however, that Wing's linear view of the autism spectrum, with higher and lower functioning ends (Figure 2.1), is increasingly falling out of favour. There is a growing preference for a more nuanced representation of the array and significance of individual symptoms that might be experienced by each autistic individual.

AUTISM SPECTRUM DISORDER

HIGH-FUNCTIONING AUTISM

LEVEL 1
Needs support
Patient's social and communication skills and repetitive behaviors are only noticeable without support.

AUTISM

LEVEL 2
Needs substantial support
Patient's social and communication skills and repetitive behaviors are still obvious to the casual observer, even with support in place.

SEVERE AUTISM

LEVEL 3
Needs very substantial support
Patient's social and communication skills and repetitive behaviors severely impair daily life.

Figure 2.1: A linear representation of the autism spectrum (American Psychiatric Association 2013)

The diagnostic term 'Asperger Syndrome', introduced by Wing (1981), quickly found acceptance amongst the clinical professions. Herself, the mother of an autistic child, Wing later went on to establish what is now known as the UK's National Autistic Society (Watts 2014).

2.1.2 Autism Spectrum Disorders: Unifying a Diagnosis

Although autism was once regarded as psychiatric in etiology, it is now widely regarded in clinical literature as a disorder of neurodevelopment, whilst being described in behavioural terms (Hill and Kodituwakku 2002; American Psychiatric Association 2013; Saxena and Chahrour 2017; Lord, Elsabbagh et al. 2018). While the United States' American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) has considerable influence in the USA and the rest of the world, the UK's National Health Service (NHS) uses the World Health Organisation's International

Classification of Diseases (ICD) to diagnose neurodevelopmental disorders such as autism/autism spectrum disorder (National Health Service 2012).

The ICD-10 (version 4 / 2019) manual that is generally used in the UK for diagnostics describes autism as a spectrum, with and without disorders of intellectual development (World Health Organisation 2016) and with various levels of impaired language development. It still makes some distinctions between autism, childhood autism and Asperger syndrome (National Autistic Society 2021).

The introduction of an all-encompassing definition of Autism Spectrum Disorder was met with some controversy, however. Concern was expressed by health care professionals that some patients would no longer meet the criteria for a diagnosis of autism, resulting in those individuals no longer being able to access resources of support (Wing, Gould and Gillberg 2011; Kulage, Smaldone and Cohn 2014). This was particularly the case for those who may previously have received a diagnosis of Asperger Syndrome or PDD-NOS. It was argued by Wing, Gould and Gillberg (2011), that the gradual disposal of sub-categories of autism-related disorders with the publication of the DSM-IV and DSM-V could be responsible for a marked increase in the clinical prevalence rates of autism, as more patients would be diagnosed. A study conducted by Columbia School of Nursing after the publication of the DSM-V, however, showed a decrease in diagnoses of 31% using the DSM-V in comparison to the criteria specified in the DSM-IV (Kulage, Smaldone and Cohn 2014). Regardless of these assertions, it is widely suggested that autism diagnosis rates are increasing (Saxena and Chahrour 2017; Lord, Elsabbagh et al. 2018; E. Clark, B. Dunn and Ger 2020) to as high as 1.7% of children (Knopf 2018).

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The removal of Asperger Syndrome, which was considered difficult to clinically distinguish from high functioning autism, was met with some resistance from clinicians, who felt that the diagnosis for some patients would be less 'stigmatising' (Barahona-Corrêa and Filipe 2016). Indeed, as suggested in section 2.1.1, there is a growing resistance to the use of the term Asperger Syndrome amongst some in the autism community, who see it as not only stigmatised but also elitist (Guelph Mercury 2010). Some claim that persistent use of the term represents a desire of those holding such a diagnosis and their families to differentiate themselves from the rest of the autism spectrum, in some cases, capitalising on the image of the quirky genius, strength-based perspective of autism (Seers and Hogg 2021) or to make their high-functioning apparent. Indeed, Macaskill (2019) suggests that there is a tendency in church communities, as many others, to focus on special abilities when defending the value of a person with autism or another disability. This may include savant syndrome, where an autistic person may have a remarkable talent in one or more domains, for example, memory or music (Hughes et al. 2018). Such a stereotype was made famous by the 1988 film, Rain Man (Draaisma 2009) which also received criticism for reinforcing such stereotypes.

Some of those diagnosed with Asperger Syndrome, however, felt that their identity was undermined with the removal from the diagnostic manual (Giles 2014). While the diagnosis of Asperger Syndrome is not longer used in the UK, the National Health Service still recognise the validity of such a diagnosis for those who have already received it (National Health Service 2021).

What is clear from this debate, however, is that autism, for many, rep-

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resents more than a diagnosis, but also an identity (Guelph Mercury 2010; Macaskill 2019; Seers and Hogg 2021). Given the importance of the early years in a child's development, social acceptance of that identity will likely be a key contributor to future and present well being (Mostow et al. 2002). This suggests, then that a welcoming of an individual as an autistic person, rather than in spite of their autism, will be an important consideration for inclusive practices considered by the UK Christian community.

In the UK, the ICD is the preferred diagnostic manual. A revised edition of the ICD (ICD-11) (World Health Organisation 2021) is expected in January of 2022 and is likely to be closely aligned with the DSM-V (National Autistic Society 2021). The new ICD-11 moves away from the more complex categorisation of the ICD-10, which included (F84.0) Childhood autism, (F84.1) Atypical autism, (F84.2) Rett syndrome and (F84.4) Asperger syndrome, amongst others. These differential diagnoses of autism may represent different understandings of autism and identities within the UK Christian community.

It might also be expected, then, that although terms such as PDD-NOS and Asperger Syndrome may no longer be commonly used in a diagnostic capacity, the use of such terminology may continue to be used by the wider public and, by extension, participants in this study. It is also possible that the array of definitions and understanding of autism that have evolved over recent decades could continue to shape the views of society to this day. Many autistic individuals and their families will also continue to identify with their original diagnoses. In turn, this may play some role in forming perceptions of those with autism by members of the church and, by extension, any mobile technology used within spiritual contexts.

2.1.3 Current Definition of Autism Spectrum Disorders

According to the National Autistic Society (2020), autism can be described as a lifelong disability that has an impact on the way an individual perceives the world around them and how they interact and communicate with others.

An autism spectrum disorder may be indicated when an individual presents with difficulties in engaging in both social communication and interaction, as observed in multiple settings. Such impairments may include social-emotional reciprocity, non-verbal communication skills and the ability to understand, develop and maintain social relationships (American Psychiatric Association 2013; National Autistic Society 2020; National Health Service 2021).

Given the anticipated changes in the ICD-11 as outlined in Section 2.1.3, the anticipated mirroring of the DSM and the complexity of the diagnostic structures, the definition of autism outlined in this section is taken from the DSM-V.

According to the DSM-V (American Psychiatric Association 2013), autism spectrum disorders are characterised by an:

- Impaired social-emotional reciprocity

- Impaired non-verbal communication skills

- Impaired ability to understand, develop and maintain social relationships

Atypical behaviours may also be displayed, including (American Psychi-

atric Association 2013; Bar Charts Inc. 2014):

- Repetitive behaviours such as motions, manipulation of objects or speech patterns

- Resistance to change by adhering to immutable routines, rituals or verbal or non-verbal expressions

- Narrowly defined and unaltered interests manifested by excessive interest or focus

- Over or under responsiveness to sensory stimuli or atypical interest in sensory attributes of surroundings.

Silverman (2011) suggests that autism's description in medical literature in psychological, neurological, behavioural and genetic terms, including research for its aetiology, can ignore the emotional aspects of what it is like to be autistic and, for families who love and care for someone with autism. Considering autism through an exclusively clinical lens risks neglecting the views of autistic people and those who care for them with regards to the more positive and negative aspects of autism in their lives and its role in shaping their identity. As outlined in Section 1.5.1, it is important to note that many people in the autism community regard autism as part of their identity and that it should be considered as a difference. Cooper et al. (2021) suggest that in an online survey of 140 autistic participants and in a focus group of 15 autistic participants, whilst challenges and impairments such as difficulty navigating social relationships or self-acceptance were identified, there were also many positive aspects identified. These included unique abilities and sense of identity, along with feeling a sense of pride in being a little bit different.

2.1.4 Possible Symptoms of Autism

This section gives an oversight of some of the symptoms that may be displayed by autistic children. Given the complexity of the autism spectrum and the unique nature of each autistic person, not all symptoms are considered in depth. Instead, this section focuses specifically on those symptoms that might have the most impact on a child's integration into a social environment such as a church or other Christian place of worship within the UK. The church environment and potential barriers to inclusion, however, are noted in more detail section 2.4.4.

Eye Contact

Many autistic children may present with poor eye contact, which, in a child's early years, can impact on social and emotional skills development (Trevisan et al. 2017; Cook et al. 2017).

In a study by Trevisan et al. (2017), older children were asked about their experiences of eye contact and they reported several difficulties, both emotional and psychological, when trying to maintain eye-contact:

- Fear and anxiety, including feelings of panic and nervousness,

- Physiological responses, including pain, headaches, feeling a physical sense of shock, static and zinging such as biting in to a lemon,

- Feeling invaded, inducing a fight or flight response, feeling violated, "naked", a forced sense of intimacy or a fear of judgement,

- Sensory overload, including problems with audiovisual integration meaning that it could be difficult to listen during eye contact. This can result in people thinking that an individual is not paying attention

- Difficulties with social nuances, meaning it is difficult to judge how much eye contact to maintain without appearing to be too intense of not being attentive enough.

While some autistic children may learn or be taught how to sustain appropriate amounts of eye contact (Cook et al. 2017), it is evident that a deficit in eye contact can continue to be a source of social difficulty for the duration of the lifetime of many autistic people. Whilst eye contact is generally considered important in social situations such as church attendance, concerns have been expressed regarding autistic children being encouraged to maintain eye contact when they are not comfortable (Stewart 2021) and where it may result in distress (Hadjikhani et al. 2017).

Special Interests & Adherence to Routines

Many autistic children have special interests, which are an intense and enduring interest in a particular topic. Special interests in the literature have been cited as a cause for concern, as they can be predictive of difficulties with social interaction (Klin et al. 2007; Grove, Roth and Hoekstra 2016). For children experiencing difficulties with perceptions of social cues and facial recognition, it may be difficult to notice a lack of interest in the other person or give them a chance to respond. It may also mean that the child will have an intense desire and need to engage in that activity in social spaces, such as churches, where it may be considered disruptive or inappropriate.

Much of the literature exploring special interests in autistic children have been based around parental observation. Whilst that inevitably holds some accuracy, conversely, more recent studies that have involved the views of autistic people have suggested that special interests can help facilitate interactions with others with similar interests, generate positive emotions and can support the autistic person by providing a coping mechanism (Nowell et al. 2021; Harrop et al. 2019). Supporting children by acknowledging their special interests can also be a means of engagement in a positive manner (Jung and Sainato 2015). Given the preference displayed by many autistic children towards mobile technology, acceptance of use within churches may serve as a support mechanism for inclusion and create a sense of welcoming and belonging.

Some children with autism may have a strong preference for maintaining a routine, as indicated in the diagnostic criteria (American Psychiatric Association 2013). Routines that are disrupted can cause considerable distress, whilst adherence to routines may provide some relief from anxiety and stress (Robison 2017). It is perhaps of note that liturgical settings can provide a sense of routine, depending on the denomination and culture or worship, although there are likely to be some variations from week to week, including hymns and readings. Liturgical rhythm may represent recurring patterns and may serve as a possible anchor for support.

Language and Speech

A delay in speech and language development is often the first sign of concern noticed by parents of children who later receive a diagnosis of autism (Sivberg

2003). Language skills and the level of social impairments can be a key prognosis indicators for autistic children (Caplan, Blacher and Eisenhower 2019). Where speech is present, it can be stereotyped, repetitive, idiosyncratic and overly formal (Solomon et al. 2011; Waddington et al. 2014).

A study conducted by (Van Der Paelt, Warreyn and Roeyers 2014) showed that imitation, pretend play and other social-communicative behaviors are important for language development in all children. For many children with autism, however, challenges with the development of social-communicative skills can be difficult. Van Der Paelt, Warreyn and Roeyers (ibid.) argued that, as a consequence, children should be supported in these areas from an early age as part of any intervention strategies. Social environment is a contributing factor to the social development of a child with autism (Charlop-Christy et al. 2002; Lerna et al. 2012), which suggests that churches could play an additional role in supporting autistic children.

Social reciprocity, which is facilitated by an awareness and response to the emotional and interpersonal cues of others, can be impaired in autistic children (Leach and LaRocque 2011). Impairments in the social use of language, or 'pragmatics' is a key feature in many individuals with Autism Spectrum Disorders, with such difficulties hindering the ability to establish or maintain reciprocity in conversation (Malkin, Abbot-Smith and D. Williams 2018). A child with autism may therefore experience difficulty in engaging in back and forth conversational exchanges, hindering their ability to exchange information for social purposes, including negotiation, collaboration and daily interaction. Such a deficit can have a negative impact on the development of social skills and cognitive ability (Mundy 1995), along with establishing social relationships (Leach and LaRocque 2011).

Another feature of speech in some autistic children is echolalia (Sigman and Capps 1997). Echolalia is the repetition of the words and speech of another and it can be immediate or delayed. Although echolalia is not restricted to children and adults with autistic spectrum disorders, it is a commonly identified feature amongst children with the condition (Sigman and Capps 1997; Roberts 2014; Sterponi and Shankey 2014). Echolalia in autistic children is widely thought to be a non-functional and self-stimulatory behaviour, although there is some argument that it may play a role in language development (Roberts 2014). It is, however, a behaviour that demonstrates the difference between true communication and the ability to transmit speech (Sigman and Capps 1997). In other words, the ability to speak words is not the same as the ability to communicate through speech.

Unusual or poor speech can sometimes make it difficult for autistic children to form social bonds, as they do not engage in back-and-forth conversation. Idiosyncratic speech and echolalic behaviours may mean autistic children can appear odd to others. In turn, this can contribute to social isolation. Within the context of churches, where specific responses are generally expected at key points in the liturgy, echolalic behaviour may appear to be disruptive or distracting to others.

Hyper and Hypo-Reactivity to Noise and Other Sensory Input

Sensory sensitivity has been highlighted as far back as Kanner's (1943) identification of autism (Section 2.1.1.), but interest in the sensory aspects of autism has been subject to varying levels of focus over time (Simmons 2019) with the inclusion of sensory reactivity in the DSM-V diagnostic criteria

(American Psychiatric Association 2013) (but not in the ICD-11). Perception of external sensory input can vary in all individuals due to the physical randomness of the external environmental and due to variations in internal processing in individuals (Park et al. 2017). Issues regarding hyper and hyposensitivity to sensory input can be particularly common in autistic children, however (Lord 2011). The interaction between brain organisation, functioning, social and behavioural characteristics and sensory symptoms are not yet well understood (Linke et al. 2018). It has also been suggested that hyper and hypo sensitivity can co-exist at the same time (Pellicano and Burr 2012).

Z. J. Williams et al. (2021) argued that decreased sound tolerance (DST) in autistic children should be considered as three phenomenologically distinct conditions; hyperacusis, misophonia and phonophobia. Hyperacusis can be defined as an unusual sensitivity to normal sounds in the environment and it is commonly reported by children with autism spectrum disorders and their families. Hyperacusis, including hyper or hyporeactivity, may play a role in shaping the language development of a child's speech (Stiegler and R. Davis 2010; Z. J. Williams et al. 2021). Misophonia, which is sometimes referred to as sound sensitivity syndrome, is an excessive and inappropriate emotional response to specific trigger sounds, typically eating, tapping or chewing (Z. J. Williams et al. 2021). Phonophobia, like misophonia, can result in disproportionate emotional responses to sounds, but phonophobia is also characterised by fear and anxiety in response to actual or anticipated sounds (ibid.).

Such sensitivity to sounds, especially in the case of phonophobia, can also result in anxiety about entering noisy environments (Stiegler and R. Davis 2010). Children and individuals who have an autism spectrum disorder

may perform the same as typically developing children in simple auditory tasks, but will often perform more poorly on complex auditory tasks such as discriminating speech from complex background noise (Dunlop, Enticott and Rajan 2016).

Self-regulatory behaviours ("Stimming") can include hand flapping, body rocking, pacing or repetitious use of words, and it can be frequently observed in autistic children (Masiran 2018; Kapp, Steward et al. 2019). Although stimming has widely been regarded as an involuntary response to stimuli and a way of self-regulating, it has more recently been reported as an "embodied semiosis" and a means of communication (Nolan and McBride 2015).

In social settings, self-regulatory behaviours can be a source of distraction or distress to others and children or adults who display such behaviours may be at risk of injury and may be socially marginalised (Masiran 2018). With the context of many church environments, stimming behaviours could be particularly problematic where behavioural expectations might exist. Despite these challenges, Kapp, Steward et al. (2019), in a study of stimming behaviours of autistic adults, found that the participants felt their behaviours are an important adaptive measure that helps them cope. While this study investigates the experiences of adults rather than children, it potentially provides some insight into the motivations and importance of stimming for autistic people, regardless of their ages. It was also suggested in the same study that, with education and awareness, many of the issues around social acceptance can be overcome or that stimming can be tolerated.

Autistic Meltdowns

Many, but not all, autistic people may experience meltdowns, which are intense reactions to overwhelming situations (National Autistic Society 2021). Meltdowns can be distressing for the autistic person, along with parents and caregivers, or anyone who might witness it (Montaque, Dallos and McKenzie 2018).

Within society, there is an acceptance that a young child may behave in ways that are deemed socially inappropriate. For autistic children, meltdowns, however, can be perceived as antisocial behaviour that are akin to tantrums (Ryan 2010). In turn, this can reflect negatively on the child and parents or caregivers, resulting in embarrassment or compounding any sense of stigma (Montaque, Dallos and McKenzie 2018). This may impact how a family might go about their daily routines or decisions to engage in social situations, including church attendance.

A study by Ryan (2010) into the experiences, support and information needs of parents of autistic children drew on a thematic analysis of interview data, which revealed some of the key concerns and considerations for parents before going into public spaces. Stressors included unpredictable behaviours in their children and the unpredictable responses of others. One parent reported;

> "The hardest thing, one of the hardest things I find is other people. You know that is the thing I am always bothered about. I know it is a problem more in my head and other people just say "I don't care what other people think", but you know from when he

was little and he used to scream and headbang and people used to stare in shops [y] and even now, you know when he goes out in his slippers he looks different and going into our local post office that we go into almost every day, and they say, "Hello." And he doesn't say hello back. I feel uncomfortable with that." (Karen, son aged 9) (Ryan 2010, p. 871)

Ryan (ibid.) argues that 'Karen's' quote demonstrates an emotional tension between her protectiveness of her child and his behaviour, along with a commitment to adherence to social convention.

Where social judgement, either perceived or real is experienced, there can be a felt pressure to explain the diagnosis, along with conflicting feelings about doing so in the child's presence:

"There is one thing I do find quite difficult. [um] And that is the decision whether or not to say to a stranger, that [um] [er] this youngish man with me, has autism. But a big part of the problem is a feeling of some embarrassment in front of Geoff for sort of labelling him in his presence [um] as being autistic." (Roger, son aged 28) (ibid., p. 872)

The use of distraction techniques was noted in both the studies of Ryan (ibid.) and Montaque, Dallos and McKenzie (2018), which, along with structure and routine, can sometimes help manage meltdowns and challenging behaviour (O'Nions et al. 2018).

Meltdowns, along with the associated stressors and stigma, may result in a reluctance to attend liturgical settings. It is evident from the research

of Ryan2010 and Montaque, Dallos and McKenzie (2018), that parents and caregivers often try to adopt coping strategies that involve distraction tactics. Mobile computing acceptance in liturgical settings, therefore, may help reduce the risk, duration or intensity of meltdowns and provide a great sense of confidence in church attendance. This may be of particular importance and usefulness where the mobile device serves a special interest.

Comorbid Mental Health Conditions

According to Sharma, Gonda and Tarazi (2018), around three quarters of autistic children have co-morbid medical, psychiatric or neurological disorders. These can include:

- ADHD (Attention Deficit Hyperactivity Disorder) (30-50%)

- Depression (10-50%)

- Anxiety disorders (up to 80%)

- Bipolar disorder

- Tourette syndrome & tic disorders (up to 22%)

- Childhood-onset schizophrenia

(ibid.).

While it is agreed that depression is common in children and young people with autism spectrum disorders, there is not yet a definitive consensus on its prevalence (Menezes et al. 2018).

The consequences of comorbid depression and anxiety are significant, however. It is suggested that autistic people are at significantly more risk of suicide ideation, suicide attempts and suicide. Two systematic reviews of various clinical studies estimate that the incidence of suicidal attempts over the lifespan of autistic individuals arrived at similar figures of 7%-46% (Zahid and Upthegrove 2017) and 10%-50% (Segers and Rawana 2014). Females on the autism spectrum may be at more than double the risk of suicide than men on the autism spectrum (Furfaro 2019).

The prevalence of autism diagnoses has resulted in considerable pressure on children's mental health services (CAMHS) (Roughan, Parker and Mercer 2019), meaning that there can be delays in accessing appropriate and vital support. Consequently, attention is being turned towards potential m-Health solutions to help support children and families with managing mental health outcomes (Edbrooke-Childs et al. 2017; Roughan, Parker and Mercer 2019). This adds weight to the argument that there will be a growing dependency on m-Health solutions to support autistic children and their families in multiple settings.

Concerns also exist around addiction, the risk of which can be enhanced by ritualistic and sensory seeking behaviours, along with the temporary sensory relief some substances offer (Kawabe et al. 2019). It is also suggested that it may also be due to the high co-morbidity of autism with attention deficit hyperactivity disorder (ADHD) (Butwicka et al. 2017). Addictive behaviours in young people with autism spectrum disorders around usage of the internet have also been recognised in autistic children (So et al. 2017; Kawabe et al. 2019). Given that, more broadly, there are societal concerns around internet addiction that are commonly discussed in the media (O'Keefe 2019; Leszcz

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2021; Kelly 2021), an awareness of such issues by members of the churches may have an impact on the acceptability of children using digital devices, along with contributing to potentially negative perceptions of parenting approaches.

2.1.5   Autism: Symptoms and Diagnosis - Conclusion

The understanding of autism and autism spectrum disorders has evolved over recent decades. While initially thought to be a disorder of childhood development, including parenting techniques, it is now regarded as a spectrum disorder, characterised by impairments in social-emotional reciprocity, non-verbal communication skills and the ability to understand, develop and maintain social relationships (American Psychiatric Association 2013). There are many possible symptoms of autism and not all autistic children will experience these symptoms and those experienced may change over the course of a lifetime. Autism can be a pressing public health concern due to comorbid conditions such as depression and anxiety (Peters et al. 2011).

2.2   Autism, Family and Society

This section considers the autistic child, their family and how societal perceptions and interactions can shape their experiences. This may be reflected in their experiences within churches or may shape and influence their own attitudes and perceptions of their inclusion within UK churches and the wider UK Christian community.

2.2.1 Autistic Children and Friendships

Friendships and other social interactions can provide children with important social, emotional and cognitive resources (J. Dunn 2004) and even one important friendship has been shown to have positive emotional outcomes and reduce the risk of anxiety and depression (Hodges 1999; Lindsey 2002; Whitehouse et al. 2009; Peters et al. 2011). The complex social challenges experienced by children with autism spectrum disorders, however, can result in significant social isolation. Although autistic children are shown to often want friendships (Vine Foggo and Webster 2017; Dovgan and Mazurek 2019), they are known to experience fewer social relationships and higher rates of social exclusion in comparison with children who are regarded as typically developing (Dean et al. 2014). Autistic children are also likely to have fewer get-togethers outside of their educational setting and less stable friendships when compared with other children (Kasari et al. 2011). Churches, then, especially where there are large communities of children of all ages, including those with Sunday Schools, may represent additional opportunities for autistic children to forge important social bonds and friendships. This social engagement may be supported by parents and caregivers in a way that is difficult within school settings.

2.2.2 Stigma

According to Clair (2018), stigma represents a devalued stereotype, which was classically defined by Erving Goffman as an attribute that discredits the individual to whom it is ascribed. More recently, Bruce G Link and Jo C Phelan (2001), incorporating the work of Goffman, defined stigma as having

four components:

- On distinguishing and labelling differences,

- On associating human difference with negative attributes,

- On separating "us" from "them,"

- Status loss and discrimination.

Bruce G Link and Jo C Phelan (2001) emphasised the importance of power in stigmatisation, and they posed questions as to whether the people conferring stigma have the power to ensure that the human difference they recognise and label is broadly identified in the culture and if they have the ability to make stereotypes and segregation stick.

In a separate article in the Lancet, Bruce G. Link and Jo C. Phelan (2006) further stated the public health implications of stigma, when a person realises that a label has been ascribed to them, include strained and uncomfortable social interactions, compromised quality of life, low self-esteem and depressive symptoms. The authors went on to suggest that there can also be additional physiological outcomes, such as hypertension from stress. Given that many of these challenges are already associated with autism, as outlined in section 2.1.4, stigma might be expected to compound such difficulties further.

Stigma has become viewed as a multifactorial issue, where factors such as personality and family structure may play a part in determining sensitivity and barriers to experiences of stigma (Lee 2013). Various types of stigma are also recognised, including public, courtest and affiliate stigma.
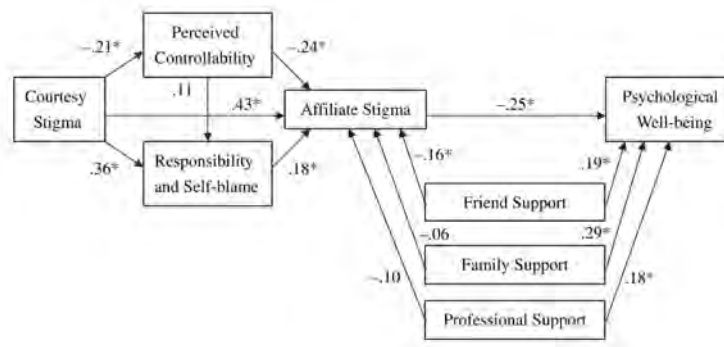
Figure 2.2: Path analysis on the attribution model of internalization of stigma among parents of children with autism spectrum disorder. * Indicates significant path

(Mak and Kwok 2010)

Public stigma is a result of other people's reactions to those who are perceived as different, and this may result in stereotypes, attitudes and discrimination against autistic individuals (Aubé et al. 2021).

Courtesy stigma can be defined as stigma that is transferred from a stigmatised person to those associated with the individual, including family members, friends and other associated individuals (Rössler 2016). An example of this might be where stigma towards an autistic child is then extended to parents or siblings. In some spiritual settings, this may be more problematic than in others.

Affiliate stigma refers to internalised stigma. In 2010, Mak2010 tested a proposed attribution model of internalisation of stigma among parents of children with autism spectrum disorders.

This study showed that professional, familial and friend support all had a positive impact on psychological well-being which, in turn, reduced the risk of affiliate stigma (Mak and Kwok 2010). Again, this suggests that church

communities have the potential to provide important benefits in terms of outcomes for autistic children and their families.

Improving Awareness and Reducing Stigma and Associated Stressors

Mindfulness-based interventions may facilitate the discontinuation of automatic self-stigmatising thoughts and behaviours (Kang, Gruber and J. R. Gray 2013). The benefits that are accessible through mindfulness techniques might also be accessible through prayer (Walker 2020).

Religious practice may also have implications for dealing with affiliate stigma because it may help assign a sense of purpose and meaning to caring responsibilities (Webb et al. 2011) but, conversely, it may also contribute to affiliate stigma, depending on the spiritual and cultural context. A study of 73 Christian mothers by Ekas, Tidman and Timmons (2019) found that higher levels of spirituality were associated with viewing their autistic child as making a positive contribution to the family and reduced maternal anxiety. It also noted, however, that more severe the symptoms of autism in the child and broader autism phenotype in the mother (Section 2.2.3) were more likely to be associated with negative interactions with congregations in places of worship.

2.2.3   Broader Autism Phenotype

While the aetiology of autism is not yet completely understood, it is clear that the literature suggests there is a strong genetic element (Trajovski 2004; De Rubeis and Buxbaum 2015; Lord, Elsabbagh et al. 2018; Lord, Brugha

et al. 2020). In the case of many autistic children attending churches, parents and family members may also demonstrate some autistic traits, even if they are sub-clinical in terms of obtaining an actual diagnosis. This is referred to as Broader Autism Phenotype (Harris 2018; Hartley et al. 2019). Indeed, some family members might achieve a diagnosis if they were to undertake an assessment but may not be aware as their perceptions of autism are shaped by their own personal experiences with their child or children. For instance, a study by Pruitt, Rhoden and Ekas (2018) showed that mothers of autistic children were more likely to experience negative mental health outcomes, including depression and anxiety, that were higher than the broader population, even when adjusted for the autistic child. Indeed, mothers of autistic children were found to be more likely to adopt "avoidance coping" (Lai et al. 2015), which may compound social isolation from churches, cutting them off from potentially important sources of support.

Given such experiences for the families of those with autism, it is likely that churches will be able to provide important sources of spiritual and pastoral support. If a child is using a tablet or mobile phone to facilitate inclusion, this may reduce stress levels in a parent or other family member with broader autism phenotype, allowing them to better engage in liturgical practice. This, however, would likely be dependent on reduced stress (Ekas, Tidman and Timmons 2019) associated with perceptions of others regarding the child's mobile technology use.

2.2.4 Autism, Family and Society - Conclusion

Due to the nature of autism and the symptoms that can be present, autistic children and their families can feel socially isolated, meaning that they can miss out on critical social relationships and support. For children with autism, friendships have been shown to be desired but difficult to begin and maintain. Children may find, then, that Sunday Schools and church attendance may afford opportunities to forge new friendships on the basis of shared experiences, and, unlike in school, these might be facilitated and supported by family members at the point of interaction. Similarly, parents and carers of autistic children may experience social inclusion. Many parents of children on the autism spectrum may experience social isolation due to anxieties around their own child's behaviour or may also experience social anxiety due to autism or broad autism phenotype.

Stigma, either real or perceived, can play a key role in shaping social interaction. Positive social relationships have been shown to, not only reduce the burden of stigma, but can have a positive impact on mental and physical health outcomes for autistic children and their families.

2.3 Mobile Technology and Autism

Autistic children have been shown in studies to have a natural affinity for computing technology (Mineo et al. 2009; Orsmond and Kuo 2011; Benton et al. 2012). This is believed to be for a number of reasons, including:

- It can help focus the attention of an autistic person,

- Unlike a person, a computing device is predictable and easier to control,

- Can support learning of vocabulary,reading and other skills,

- attractive visual media display on a screen,

- use of touchscreen technology

(Santarosa and Conforto 2016).

This section is not intended to be a critique of the mobile applications currently available to support autistic children. It is, however, intended to be illustrative of the ways in which mobile technology may be used to support those on the autism spectrum, particularly from the perspective of therapeutic support. A wide range of potential applications of mobile computing technology use are considered within this section, in order to illustrate the wide-range of ways in which such devices can meet the unique needs of each autistic individual. This research does not focus on specific applications or uses, but more the use actual use of mobile computing devices. This is recognition of the wide range of applications of use and support needs that each unique autistic individual may have. In highlighting a growing interest and use of mobile technology in this capacity, this section supports the need for further understanding of mobile technology acceptance within spiritual settings.

2.3.1 Therapeutic Support of Autism Using Mobile Devices

There are a number of reasons why an autistic child and their family may choose to use a mobile device in churches and other spiritual contexts. This section considers some of the therapeutic and supportive applications of mobile technology for autistic children. While some specific applications of such technology are considered here, there is a consensus emerging in the corpus of literature that mobile technology affords opportunities and benefits when used in the support of autistic children, including portability of support strategies, discreetness, appeal of use and retention of learning (Mintz 2013; Wojciechowski and Al-Musawi 2017; Leung et al. 2020). One of the key benefits of using mobile technology is that they are less stigmatising than other supportive aides because so many people own them and use them for personal purposes (Boyd, Hart Barnett and More 2015).

Tablet computers and smartphones contain useful sensors and technologies, including GPS, gyroscopes, accelerometers, cameras and microphones that, when coupled with an internet connection, can afford significant opportunities in supporting autistic people, along with those with other disabilities (Dumont 2013).

Mobile computing technology, in particular, offers advantages over other computing devices such as laptops and desktop computers. In a study by Santarosa and Conforto (2016), which explored technical configurations for supporting autistic children in Brazilian public schools, laptops were shown not to be user-friendly and they were perceived as being difficult to understand, largely due to the complexity of the operating systems and configura-

tions. In contrast mobile computing devices were shown to be more friendly and intuitive for the user, attributed to the availability of a touchscreen interface and the use of fingers to operate it. The portability of the computing device was identified as being a positive attribute for those autistic students who were hyperactive, as it allowed them to find and identify safe spaces in which to operate the device (Santarosa and Conforto 2016).

M. L. Clark, Austin and Craike (2015) explored the attitudes of parents of children with autism spectrum disorders and professionals, including educators and support staff who work with autistic children. While their study did not address the attitudes of observers of users of mobile technology, it did take into consideration the views of a number of stakeholders who might make key decisions regarding the assimilation of mobile technology in support of autistic children. Through the use of surveys, the authors found that there was a broadly positive attitude towards iPad application use amongst parents and professionals, with their use being more favourably viewed by parents. They suggested a number of possible explanations for this, including a more evidence-based judgement about the efficacy of support associated with their use before extensive adoption and a potential lack of confidence in integrating them into existing professional services methods. There was no indication, however, that there was concern about the digital nature of the technology.

These benefits, along with future developments, including augmented reality-based m-health solutions (Lian and Sunar 2021), suggest that mobile technology will play an ongoing and significant role in the support of autistic children and their families.

Communication Systems

There are a number of ways in which visual communications can be used to support autistic children and their families, along with those around them in the community. According to National Autistic Society (2021), visual supports can be used to help provide structure and routine to the day and events, encourage independence, build confidence, improve understanding, reduce the risk of frustration and anxiety and promote and support social interaction with others.

Visual supports can include tactile symbols and objects of reference, photographs and pictures, videos, miniatures of real-world objects, squares of coloured cards, line drawings, symbols and written words (ibid.). Whilst many of these will be real objects, printed images on to paper or card, some can be used on smartphones and tablet computers for the purpose of portability.

Although similar communication systems have been developed, one of the most common systems is PECS (Picture Exchange Communication System). PECS is an augmentative communication system that is commonly used to support children and adults who have limited verbal expression or who may be considered 'non-verbal' (Charlop-Christy et al. 2002; Lerna et al. 2012). Whilst not exclusively used by autistic children, PECS is commonly used to support communication by children on the autism spectrum.

According to Davies (2017), PECS teaches the learners to hand a picture or graphic representation of a desired item (Figure 2.2) to a communicative partner in exchange for the actual item. There are six phases of instruction with PECS:

- (i) Teaching the physically assisted exchange

- (ii) Expanding spontaneity

- (iii) Simultaneous discrimination of pictures

- (iv) Building sentence structure

- (v) Responding to the question, "What do you want?"

- (vi) Commenting (initially in response to question and later spontaneously)

Figure 2.3: Conventional PECS cards

(Davies 2017)

Research has shown that PECS can be effective in supporting the social and communicative development of some autistic children (Charlop-Christy et al. 2002; Lerna et al. 2012). These studies were limited, however, in that

they were not based on everyday interactions but more observations within clinical settings. Nevertheless, PECS is a popular therapeutic tool used by many autistic children in educational and everyday settings.

More recently, PECS applications have been developed for tablets and smartphones, increasing the portability of the system, along with using such technology to create other means of visual communication methods (Boyd, Hart Barnett and More 2015; Alzrayer and Banda 2017). One example is PECS IV+ (Pyramid Educational Consultants 2017). Pyramid Educational Consultants (ibid.) state that their application is designed to support children who have already mastered the necessary skills developed during the first four phases. They argue that high-tech options do not require the same social interaction that is crucial, especially in the earlier phases, and should not be adopted until that point. The application affords the user the opportunity to drag cards to a linear strip in order to form more complex sentences (Figure 2.3). With traditional PECS use, this may be achieved with velcro strips.

Figure 2.4: PECSIV application used to construct a sentence requesting french fries cards

(Pyramid Educational Consultants 2017)

Some research has suggested that there is a marked preference for iPad or tablet use for PECS from phase IV+ for many autistic children (Rayner 2013; Alzrayer 2020). Alzrayer (2020) found that digital modality was preferred for children in phase IV, while Agius and Vance (2016) demonstrated that the use of an iPad could be adopted by preschool children. Indeed, research suggests that the use of a digital device, such as an iPad, can be a motivator to some children with autism to engage in the system, and that the development of communication skills and progression through the PECS

phases have remained intact or even improved (Flores et al. 2012; Agius and Vance 2016).

Mobile technology to support the use of communication affords the autistic child and their families important benefits in terms of portability, relative affordability in comparison with other speech and language aides and, given the prolific use of mobile devices in society, such therapeutic applications can often be used in a more discreet manner (McNaughton and Light 2013; M. L. Clark, Austin and Craike 2015). There is also the suggestion that children, whether autistic or not, hold engagement longer with iPad and tablet-based communication and reading software (Wainwright, M. L. Allen and Cain 2020).

Within the context of churches, then, PECS have also been developed for supporting autistic children.
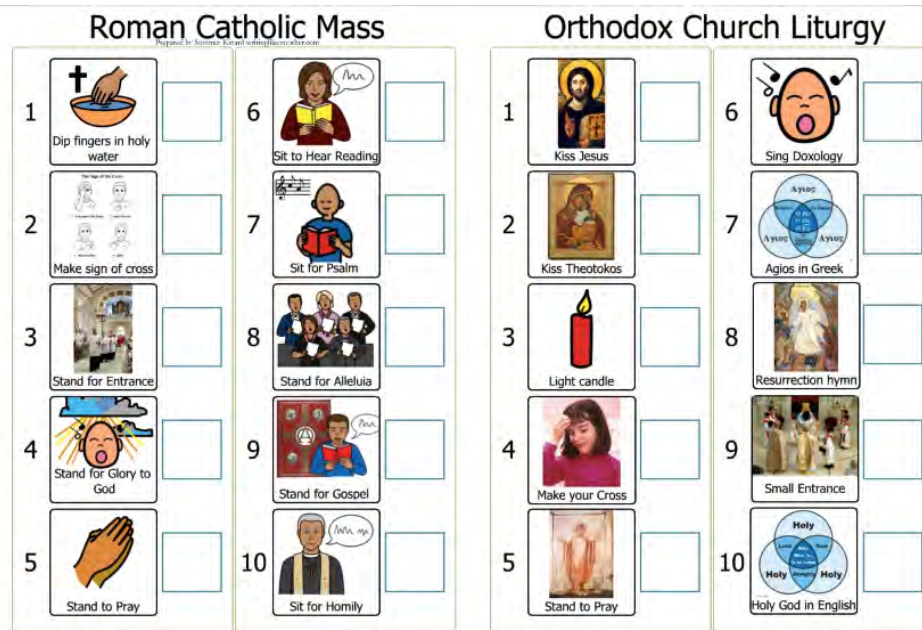
Figure 2.5: PECS and Visual Stories of Roman Catholic Mass and Orthodox Church Liturgy

(Kinnard 2021)

Kinnard (2021) developed PECS-based visual stories of the Roman Catholic Mass and Orthodox Church Liturgy to support children with autism and other sensory processing challenges (Figure 2.4). While these are not yet incorporated into a mobile application (at the time of writing), it may be relatively straightforward to extend existing digital libraries of PECS to incorporate such materials for spiritual and religious support.

Social Stories

Social Stories are short descriptions that can be shown to autistic children to provide information about particular situations, events or activities that help

them understand what to expect and why it might be happening (C. A. Gray 1998; National Autistic Society 2021; Living Well With Autism 2021). Stories are often presented as a combination of PECS-style pictures, supplemented with words as shown in Figure 2.5.

(Living Well With Autism 2021)

Figure 2.6: Social story for getting dressed

(Living Well With Autism 2021)

Some research suggests that the use of social stories can have a beneficial

impact on the communication and reciprocal social engagement for autistic children and their families (A. A. Allen and Shane 2014; Karal and Wolfe 2018). Social stories can also be used in combination with video modelling on iPads, with one piece of research suggesting that the use of social stories on iPads accelerated learning and expressions of gratitude (Almumen and Almuhareb 2020). Stathopoulou et al. (2020) and Kim, Blair and Lim (2014) also demonstrated improvements of social communication in autistic children where social stories were supported by mobile technology and video modelling, explained, in part, by increased attention. Research by Vandermeer et al. (2015), however, contested that the combination of social stories and mobile technology may be more effective support for some, but not all children and argued that further exploration is needed. Furthermore, a study by Fletcher-Watson et al. (2016), which used a larger sample size than the studies by Almumen and Almuhareb (2020), Stathopoulou et al. (2020) and Kim, Blair and Lim (2014) (54 children v ¡5), found no measurable improvement reported through tablet use. This may be explained by a focus on preschool children and a dependency on parental-reporting rather than measurement by professionals. Despite these results, Fletcher-Watson et al. (2016) argued that mobile technology as a means of low economic cost delivery of therapeutic support still warranted pursuit.

2.3.2   Mobile Technology and Autism Diagnoses

Given the advantages that mobile technology affords children on the autism spectrum, and within the context of a growing interest in mHealth (mobile health) applications within distributed healthcare models (Thummler 2015), it is clear that mobile technology presents growing potential within the realms

of assistive and therapeutic applications (Tryfona et al. 2016). This will likely be a key in expediting the diagnostic process, which can take months or years as families wait for appointments with the multi-disciplinary teams that are typically involved in the support and diagnosis of autism (C. J. Smith et al. 2017) in the NHS. mHealth solutions represent appealing potential solutions to speeding up and facilitating the diagnostic process by collecting evidence of a child's behaviours in multiple settings (Anzulewicz 2014; Klein et al. 2015; Anzulewicz, Sobota and Delafield-Butt 2016; C. J. Smith et al. 2017).

One such application that is aimed at facilitating an evidence-based diagnosis of autism is the Harmiata project, where a company in Poland has collaborated with academics, including in the University of Strathclyde, to measure gestures on a tablet when a child interacts with a game (Figure 2.6). The researchers claim that, using machine learning, they are able to identify autism within fifteen minutes with over 90% accuracy (Anzulewicz, Sobota and Delafield-Butt 2016). Although there are no results yet from the process, this product was undergoing clinical trials in Sweden and the United Kingdom (Redzisz 2021) at the time of writing.
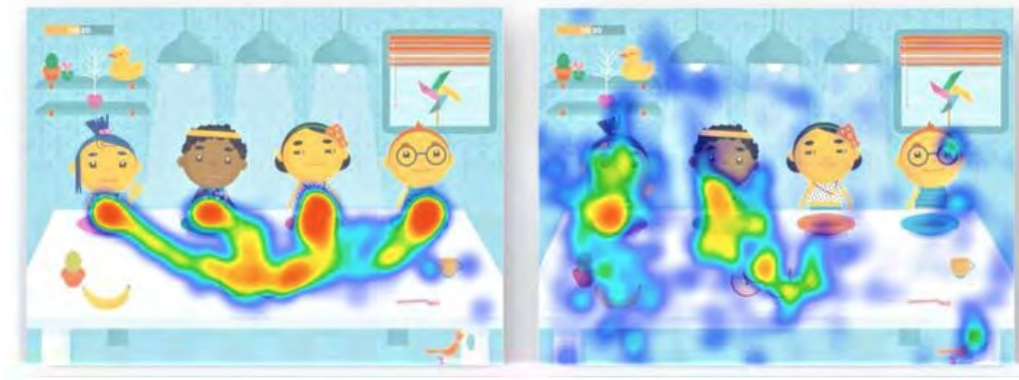
Figure 2.7: A heatmap generated on tablet screens. The image on the right is by an autistic child, demonstrating more angular and less precise movements than the child described as developing normally

(Redzisz 2021)

mHealth solutions can also be used to longitudinally monitor the experiences and symptoms of children who already have a diagnosis of autism, collecting data from children and also caregivers. A study by Bangerter et al. (2019) found that caregivers were able to record behaviours in real-time as part of a clinical trial, with over 50% claiming that they would like to have kept up their recordings outside of the study.

Another such example of observing behaviour in a child's natural environment is NODA SmartCapture, a mobile application which invites parents and carers to record evidence of a child's behaviours during everyday scenarios (Nazneen et al. 2015) (Figure 2.7). The videos are then sent to the clinician's office to a corresponding piece of software (NODA Connect) in advance of an appointment. This affords the healthcare professional with the opportunity to mark up the video in advance of an appointment with

the child, facilitating a more efficient use of the time and with a view to reducing the amount of time it takes to achieve a diagnosis. This also reduces a dependency on parental reporting of symptoms outside of the clinician's office, reducing the risk of potential bias.

Figure 2.8: Screenshots from NODA showing (left to right) a home screen of options, a request to record a scenario and the recording of a scenario

While many of these types of applications have yet to meet with clinical approval within the UK, and data is still emerging as to their real effectiveness in comparison with in-person assessments (C. J. Smith et al. 2017) they represent promising potential tools in the future of diagnosis for autism. In order for them to provide the most accurate data and longitudinal data, however, it is likely that they will need to be used in a variety of everyday contexts, including places of worship. This suggests that it will be increasingly important to understand the themes that shape the acceptance of mobile technology use within such environments, so that such technology can be freely used within religious spaces.

2.3.3 Wearable Technology & the Autistic Child

More recently, there has been a move in the corpus of literature towards exploring the potential role of mobile wearable devices in support of autistic children, including with their social skills development. While used by some families to track sleep behaviours (Koo and Rivera 2016), other examples include the use of wearable chest electrocardiograms for measuring responses to sociocognitive tasks (Di Palma et al. 2017) and, more broadly, using wearables to empower autistic people in monitoring emotional regulation, executive functioning and communication (R. M. Williams and Gilbert 2020; Koumpouros and Kafazis 2019).

Koo and Rivera (2016) argued that, given the prevalence of wearable technology such as fitness watches and sleep trackers amongst children with autism, designers should consider the needs of their users through the use of flexible materials that are adjustable for comfort. Whilst wearable technology such as smartwatches are not the focus of this research, it may represent a more discreet option in diagnostics and therapeutic support of autistic children. It should be noted, then, that such devices may depend on corresponding mobile computing devices, such as tablets and smartphones for connectivity or associated functionality. Consequently, the use of such technology may be implicated by the acceptance of mobile technology in churches.

2.3.4 Negative Perceptions Associated with Children's Mobile & Computing Use

Whilst mobile technology represents several beneficial therapeutic and supportive applications for autistic children, there are negative perceptions within society associated with its use. In turn, these may play some part in shaping acceptance in churches. Parents may feel a sense of stigma when children are seen using mobile devices in social settings where it may be deemed undesirable, e.g., at a dining table in a restaurant. This section, therefore, considers some of the literature on screen time, autism and perceived cyberdeviancy.

Screen Time

The media often place emphasis on the damaging effects of children spending too much time on screens (Orben and Przybylski 2019). The Royal College of Paediatrics and Child Health (2019) published a set of recommendations for parents and clinicians, suggesting that the direct attribution of negative health outcomes associated with digital screen time were often overstated. They went on to recommend that parents and families negotiate their relationship around mobile phone and tablet use around the following questions (ibid.):

- Is screen time in the house controlled?

- Does the screen time interfere with the things that the family wants to do?

- Does the screen time interfere with sleep?

- Are they able to control snacking during screen time?

Parental perceptions of screen time and a corresponding lack of physical activity were a concern (Hinkley et al. 2017; Jarvis et al. 2021). There has also been an increase in the amount of screen time that a lot of children have had during the COVID-19 pandemic, with parents having expressed concerns about the impact on behaviour and physical activity, reporting that there was a perceived "loss of control" from a parental perspective (Hammons, Villegas and Robart 2021).

The extent of the negative impacts of large amounts of screen time are somewhat contested, and whether those studies included children on the autism spectrum is unknown. It seems likely that the perceptions of parents and wider society have the potential to play a role in shaping the acceptance of mobile technology use in churches, particularly where expectations of behaviours may exist. Negative associations with excessive screen time, particularly in young children, may contribute to feelings of stigma, either real or perceived, particularly on the part of the parents or caregivers.

Autism, Cyberdeviancy & Terrorism

Public perceptions of autistic children or young people using technology, including mobile technology, may not be positive, with anecdotal news stories of high-profile cases of hacking, virus writing or other illegal activities appearing in the media. One such case was that of Gary McKinnon, a young British man with Asperger Syndrome who, in 2001, hacked into the US Army's Network, resulting in computer network outages for three days (Seigfried-Spellar, O'Quinn and Treadway 2015). Such cases, often widespread in the

media, can contribute to creating negative perceptions about the tendency of some autistic young people to engage in 'cyberdeviancy' (Seigfried-Spellar, O'Quinn and Treadway 2015).

There has also been some reporting that those with ASD may be more susceptible to radicalisation by terrorist organisations through online activities, which was also reported in the popular media. Recent studies have suggested, however, that there is sparse evidence to support these claims. Such claims, which are currently founded on inconsistent evidence, may contribute to the stigma associated with autism (Walter et al. 2021). Autism and its associated characteristics are only likely, at most, to play a part of an overall set of factors that indicate a risk of radicalisation (Al-Attar 2020).

Whilst these links have since been clarified within the corpus of literature, there may still be wider public concerns around autistic children and young people engaging in computing technology, particularly in the case of those children who are older or present outwardly as what might be perceived as 'higher functioning'.

Parenting and Mobile Technology Use in Public Settings

There are broader societal concerns associated with the use of mobile technology by children and these can be reflected in religious communities such as UK Christian churches.

An article featured in the Catholic Herald, a UK-based and internationally distributed Roman Catholic magazine, questioned how parents could harness the use of mobile technology and social media in a beneficial way

"without putting their children in danger" (Caldecott 2020, p. 34). Arguing that the benefits of technology on child development and mental health were unclear, while the negatives were becoming more obvious, Caldecott (ibid.) drew on issues such as exploitative psychology through algorithms as demonstrated in the Netflix documentary *The Social Dilemma*, sleep disturbance associated with screen time and childhood pornography. Whilst acknowledging the benefits of technology that had been experienced by the article author herself during the pandemic, an emphasis was placed on the importance of limiting exposure to mobile and gaming technology until children were able to demonstrate a level of maturity and self-control. The author did, however, draw on parallels with mindful television viewing to inspire activities such as reading and colouring in.

Caldecott's article did not consider any potential therapeutic uses of mobile technology pertaining to autism or any other disability. It did not discuss the use of such technology within church settings specifically. Nevertheless, it is suggestive of a view of mobile technology that, when used in inappropriate settings, could potentially be interpreted as careless parenting, compounding stigma for those who may depend on its use. It also hinted at a view that the digital should not impede on engagement with the analogue. It is of note that the issue of the Catholic Herald was issued in November 2020, several months into the COVID-19 pandemic. The cover entitled, "A digital Church?" (Catholic Herald 2020), also featured articles on online worship (Caddick 2020) and Catholic dating apps (Crowley 2020). This was, perhaps, indicative of a time of refection on technology use within the church that was inspired by months of dependency as a consequence of the COVID-19 pandemic.

2.3.5 Mobile Technology and Autism - Conclusion

Many children on the autism spectrum have demonstrated a natural affinity for computing technology. The advent of touch-screen technology has meant that mobile technology use can be adopted by autistic children from a much younger age. Consequently, mobile technology can represent an important part of play behaviours for children on the autism spectrum.

There is also a growing interest in mHealth solutions that can be used to provide therapeutic support to children on the autism spectrum, including speech and language support through digital stories and pictured-based communication systems. mHealth solutions can also be deployed to support evidence-based diagnostics that are typically used in the identification of autism. Longitudinal data collection might also support an understanding of how autism is experienced by children over a period of time. In order for these to be used most effectively, however, they will need to be deployed in multiple settings outside of the clinician's office and in everyday scenarios, including places of worship.

Mobile technology acceptance, however, is not without challenges, including potentially negative associations with use, particularly by young children. This can include stigmatisation of the user, poor perceptions of parenting, along with suspicions around the use in inappropriate settings.

2.4 Christianity in the UK

Christianity represents the largest organised religious group within the UK. According to the 2011 England and Wales national census, 58% and 59% of the population of Wales and England, respectively, identified as being Christian. In numbers, this represents 33.2 million people (Office for National Statistics 2012). In Scotland, almost 2.9 million people (53.8%) identified as Christian (Scottish Government 2011) and in Northern Ireland, 1.49 million (82.3%) (Northern Ireland Statistics and Research Agency 2011).

Christianity is a monotheistic religion, meaning that its followers believe that there is only one God. Within many denominations, including the Anglican, Roman Catholic and Orthodox Churches, this is declared in the Christian Nicene Creed, which opens, "*We believe in one God...*" and the similarly worded Apostle's Creed, *"I believe in one God...".* Both are declarations of the Christian Faith. The full text of the Nicene Creed states:

> *"I believe in one God the Father Almighty, Maker of heaven and earth, And of all things visible and invisible: And in one Lord Jesus Christ, the only-begotten Son of God; Begotten of his Father before all worlds, God of God, Light of Light, Very God of very God; Begotten, not made; Being of one substance with the Father; By whom all things were made: Who for us men and for our salvation came down from heaven, And was incarnate by the Holy Ghost of the Virgin Mary, And was made man: And was crucified also for us under Pontius Pilate; He suffered and was buried: And the third day lie rose again according to the Scriptures: And ascended into heaven, And sitteth on the right hand of the Father:*

And he shall come again, with glory, to judge both the quick and the dead; Whose kingdom shall have no end. And I believe in the Holy Ghost, The Lord, and Giver of Life, Who proceedeth from the Father and the Son; Who with the Father and the Son together is worshipped and glorified; Who spake by the Prophets: And I believe one Catholic and Apostolic Church: I acknowledge one Baptism for the remission of sins: And I look for the Resurrection of the dead: And the Life of the world to come. Amen" (Christ Church Atlanta 1928)

There are some small but significant variations in the wording of the Creed amongst different denominations. The most notable of these is the *Filioque*, meaning 'from the Son'. Broadly, the inclusion of these words in the line, "Who proceedeth from the Father and the Son" in Western Christianity, represents a significant point of contention with Eastern Christianity, who do not (Effingham 2018). The Creed, however, is not used in all denominations. The Baptist Church, for example, generally does not draw on creeds, which may be seen as to detract from the authority of the scriptures (Fairchild 2021). There are also distinctions in how the mystery of the Holy Trinity is perceived and interpreted in the UK Christian community. Across Christian denominations in the UK, there are other variations and beliefs based in culture, philosophy and theology.

Despite these differences, for the purposes of this research, the beliefs of the UK Christian community are regarded as largely consistent. This is because such nuances of theological interpretation are not likely to significantly impact on the themes that shape mobile technology acceptance within the context of a broad exploratory study, such as this body of work.

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2.5   Autism, Spirituality and Christianity

From the perspective of the UK Christian community, there is typically a strong desire to be inclusive to individuals with disabilities, including autism (Brock 2009; Pannone 2017; Bustion 2017). Nevertheless, this acceptance can sometimes be complicated by many non-religious factors, including, but not limited to, culture, perceptions, personal fallibility and stigma. Physically, the church environment in itself can also present challenges to children and adults on the autism spectrum (Newman 2011; Macaskill 2019).

Research suggests that there are significant potential benefits that can be gained from spiritual expression for autistic children, along with family and caregivers, which are included in this section. Indeed, there is a suggestion that spirituality is an important part of the human experience. When supporting autistic children, there is, perhaps, a focus on the perceived fundamental needs such as warmth, shelter and food, whereas the spiritual needs of autistic people, along with those with other disabilities, can be overlooked (Hills, Clapton et al. 2019).

This part of the literature review is intended, then, to outline the motivations for the UK Christian community to include children with autism in their churches, whilst outlining some of the key arguments as to why that spiritual inclusion might be supported. It is not intended as a critique of Christian practice or theological thought, however. In turn, this supports the need for consideration of the potential role of mobile technology in supporting that inclusion.

2.5.1 Christianity and Inclusion of Autistic Children

Whilst it is impossible to consider the theology of disability in any depth, theological thought may provide some foundation for the acceptance of autistic people within the UK Christian community. Consequently, this section aims to give a brief outline of the key theological arguments for the inclusion of autistic children and their families by the UK Christian community. Such theological thought may serve as a motivator for acceptance of mobile technology in the support of such children. This is considered as part of an ontological lens through which this issue might be viewed by the case study population.

The UK Christian community has a strong desire to be inclusive to all people, including those with autism spectrum disorders (Marker, Weeks and Kraegel 2007; Hills and Meteyard 2013; Ekas, Tidman and Timmons 2019). The ontological premise of inclusion, however, does not always match with the lived experiences of autistic children and their families. Macaskill (2019) states;

> *"The church is not a safe place just because it is the church. It is not a place where the values of God's kingdom are straightforwardly implemented and applied to the welfare of each member. It is the place where the battle of the flesh and the Spirit occurs most violently, and it may, therefore, continue to be full of dangers for its vulnerable members."* (ibid., p. 97)

Given the relatively recent medical recognition of autism, there is no official stance on behalf of the Christian community on the condition (Waldock

and Forrester-Jones 2020). The motivations of the UK Christian community to be inclusive to those with disabilities such as autism are not confined to theological teachings. There is, for example, a wider awareness and legislative culture within the UK that considers the rights of disabled people, including The Autism Act of 2009 (UK Government 2009). According to Waldock and Forrester-Jones (2020), there is very little in the way of studies of attitudes of congregational members towards those with autism and none that refer specifically to the UK. Howell and Pierson (2010) and Ault, Collins and Carter (2013), through parental reporting, suggest that autistic children and their families find religious engagement in places of Christian worship fulfilling, and that their experiences can be enhanced to support their inclusion but studies in this area remain scarce at the time of writing.

In response to this research gap, Waldock and Forrester-Jones (2020) conducted a study of attitudes towards autism amongst Christians in the South East of England. The study revealed:

- Respondents reported knowing very little about autism or that their perceptions were influenced by limited personal experiences or media representations, including the film Rain Man.

- Participants' beliefs played some role in shaping views of disability and autism, but that there was a lack of consensus.

- A lack of confidence in an autistic person's ability to understand or engage in Christian faith in a meaningful way.

- There was a desire to be inclusive, and participants were able to reflect on possible changes within the Church to facilitate this, but it was clear that some were considering this for the first time when asked.

Whilst a small-scale study, Waldock and Forrester-Jones (2020) revealed a general commitment and desire for the inclusion of autistic members by the UK Christian community, but that a deficit focused view of autism based on medical definitions and presentations potentially represented barriers to such inclusion. Their findings were summarised in a proposed formulation showing the process of attitudes toward autism in Protestant Churches in the United Kingdom (Figure 2.8).
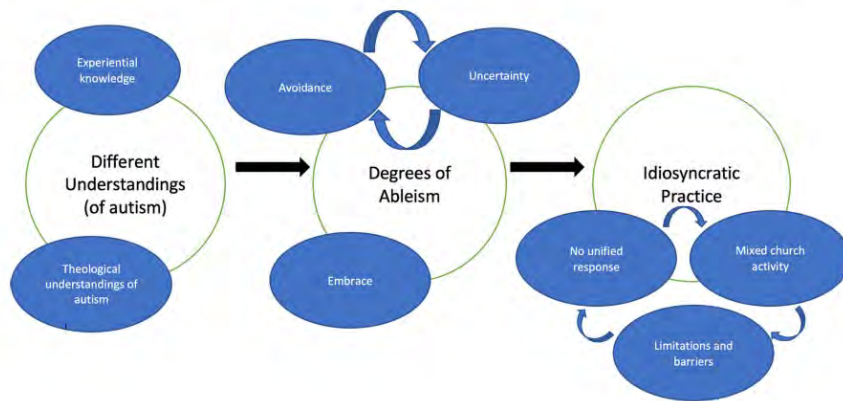
Figure 2.9: A formulation to show the process of attitudes toward autism in Protestant Churches in the United Kingdom

(Waldock and Forrester-Jones 2020)

Despite the lack of literature focused on the UK Christian Community, examples of a growing consideration for the inclusion of autistic people in the churches are emerging. The Roman Catholic Church has hosted a conference specifically with a focus on autism. In the opening address of the 2014 conference, *The Person with Autism Disorders: Animating Hope"*, Pope Francis stated;

"*Everyone should be committed to promoting acceptance, encounter*

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and solidarity through concrete support and by encouraging re-newed hope, thereby contributing to overcome the isolation and, in many cases, the stigma to which people with autism spectrum disorders are also subjected, and often their families too. This must not be an anonymous or impersonal accompaniment, but one of listening to the profound needs that arise from the depths of a pathology which, all too often, is difficult to diagnose but — especially for the family — must be accepted without shame or withdrawal into solitude." (Pope Francis 2014)

Whilst Pope Francis has been criticised for his use of language around autism (NewzHook 2020), the hosting of such events suggests a broad commitment to inclusion and support of those with autism and their families.

The COVID-19 pandemic has also brought into focus the potential of using technology for virtual presence. Where the concept of community and coming together in person on a regular basis is of such importance within the UK Christian community, those who have chosen not to attend or have felt excluded, have sometimes experienced criticism (Endress 2021). In turn, this may compound any hesitancy around participation for such members of the community.

2.5.2   Inclusion and Theological Thought

Given that the UK Christian community has a strong desire to be inclusive and to acknowledge the important role mobile technology plays in the lives of autistic children, theological thought may play some role in shaping and

motivating the acceptance of mobile technology.

Swinton (2012) argues that, for those with disabilities such as autism, the Christian community needs to transition from a culture of inclusiveness and to extend to one of belonging. He goes on to argue that seeing disability as "difference" is problematic in that such a view is founded on the assumption of a "normal". Instead, Swinton argues that difference *is* the norm, as there is no such thing as a normal human being. Even at a genetic level, the only norm for humans is that of difference. This view is supported by Hills and Meteyard (2013), who argue that the difference of autism is something to be embraced within Christianity. In reference to the practice of inclusion, Swinton (2012) further argues that, whilst the law can legislate for inclusion, it cannot help people to belong.

The Christian theological concept of *imago Dei* is also subject to considerable discussion within the field of theology, including the theology of disability. *Imago Dei* refers to humans being made in the image of God. Indeed, some theologians state that the concept is impossible to accurately and clearly define (Maliszewskaa 2019). To critique *imago Dei*, then, is outside the scope of this research but, regardless of a lack of total consensus of interpretation within the Christian community, there is agreement that humans with disabilities, including autism, just like all humans, are "undeprivably and inescapably in God's image." (Hedges-Goettl 2002, p. 16). The notion of all people being made in the image of God, regardless of their characteristics, is likely a key philosophical motivator for inclusion and belonging of autistic children. By extension, then, this may also serve as a motivator for the Christian community to consider further the support of mobile technology use for the purposes of achieving that very goal, although this is not without

difficulty (see section 2.5.2).

2.5.3 Autistic Children and Religious Expression

The spirituality of all humans is considered important, and this includes children. Within the Christian community, Child Theology seeks to better understand the spiritual experiences of all children (Mountain 2011). The religious and spiritual needs of those on the autism spectrum, like those with other disabilities, however, can be overlooked. In the case of autism, assumptions may be made about an autistic person's need for spiritual expression and engagement because of the neurological, cognitive and social challenges that can be associated with the condition. This can result in difficulties in engaging with religious experiences and assumptions whether it would even be desirable or meaningful at all (Swinton and Trevett 2009).

The following sections provide an account of two key studies that explore the spirituality of autistic individuals.

Hills, Clapton, Dorsett and Anderson, 2019

Whilst the research of Hills, Clapton et al. (2019) focused on the experiences of autistic adults, rather than children, their research affords important insight into the spiritual experiences and desires of those individuals who present with some of the more severe symptoms of autism, in this case, nonverbal autism. The research conducted through interviews using tablet computers and letterboards as communication devices, revealed a desire for religious and spiritual expression.

The quotes are included in this thesis as reported in the paper so that the views of the participants in the study by Hills *et al* can be communicated in their own words.

When asked about the role of spirituality in helping them manage their well-being:

> *"My spirituality lets others experience my humanity."* (Participant 7, Interview 1) (Hills, Clapton et al. 2019, p. 370)

> *"I think everybody has something that they need to believe in or they wouldn't cope with the hardness of life."* (Participant 6, Interview 1) (ibid., p. 370)

What was also revealed in Hills, Clapton et al. (ibid.) was how the participants could feel marginalised due to societal misconceptions:

> *". . . sometimes people make me sad or lonely, [however spirituality] lets me rise above my autism and remember that I am a child of God just like everyone else."* (Participant 7, Interview 1) (ibid., p. 377)

> *". . . it makes me think that not everything is so yucky and that not everybody is mean [. . .] I think the world forgets people like us and thinks we aren't valuable because we don't make money or drive fancy cars or do work they think is anything worth money!"* (Participant 6, Interview 1) (ibid., p. 377)

There is an inherent desire within the Church to be inclusive to those with autism, but families across the world have also reported that their realities do not live up to this expectation (Ekas, Tidman and Timmons 2019; McMahon-Panther and Bornman 2020).

Bustion, 2017

Bustion (2017) conducted an ethnographic study online of the Christian subforums on ASPIESCentral, Wrong Planet and Autism Aspergers web sites, which are English language but have contributors from many parts of the world, including the United States and Canada, Europe, China and Australia and New Zealand. Participants described themselves as having various presentations of autism and autistic traits and self-identified using a variety of terms, including *aspie, moderate functioning autistic, autie, spectrumite* and *autistic cousin. Autistic Cousin* can describe a person who is autistic-like but has not received a formal diagnosis (ibid.), and could possibly be indicative of Broader Autism Phenotype (Howe, Brand and Talkwoski 2016)). The work of Bustion (2017) reports insights into the views of those on the wider spectrum in terms of their Christian spiritual expression, but also their perceptions on participating in religious practice in churches. The sensory environment of various churches was a common theme of discussion, particularly the music and its volume, complicated structures and the social expectations of hugging, shaking of hands, dress code and suppressing stimming. Needing to leave the place of worship and missing out on Christian fellowship was a frequently reported concern on the forums.

A second barrier to participation in practice within Christian places of

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worship identified by Bustion (2017) was that many individuals on the forums reported feeling "rejected", "left out of things", "marginalised", "sidelined", "infantilised" and "misunderstood" by non-autistic Christians. Those who contributed to the forums emphasised that they did not feel that their autism was a barrier to talking to God, even if they perceived ecclesiastical spaces as hostile and many non-autistic Christians as being intolerant.

> *"God is quite literally my best friend because God is the only one who 'gets me'"* (ibid., p. 674)

> *"God is not stymied by Aspergers. He knows exactly how to speak to our hearts in such a way that we can unmistakably understand him."* (ibid., p. 674)

> *"My parents used to say talking to me is like talking to a brick wall, yet God has gotten through to me, so God must speak Aspergian"* (ibid., p. 675)

Indeed, churches and other places of worship can often be large and conducive to echos and so represent potentially challenging sensory environments. Within liturgical settings, there may be other sensory challenges such as responsorial chants or psalms, organ music or clapping (Newman 2011; Macaskill 2019).

Bustion (2017) claimed that young autistic people, in creating an online community, where they could process their perceived rejection by non-autistic Christians, had space to theologise and relate to God in a unique way. In

seeking solace and community elsewhere, however, the Church community was potentially undermined.

The studies of both Hills, Clapton et al. (2019) and Bustion (2017) demonstrate a desire on the part of the autistic person to express themselves spiritually and religiously, along with a frustration at some of the barriers that exist to such opportunities. The methodological approach of Hills, Clapton et al. (2019), along with the digital engagement evidenced in the results of Bustion2017, both demonstrate the important role that mobile technology can potentially play in providing comfort in and facilitating spiritual expression for autistic individuals.

2.5.4 The Church Environment and Autism

Given the importance of spiritual welfare for both autistic children and their caregivers and family, religious communities, then, can be seen to offer significant opportunities in terms of accessing spiritual, practical and pastoral support. Many churches within the UK Christian community will already be providing welcoming environments for those with autism (Macaskill 2019) and may also be tolerant of the use of mobile technology.

Macaskill (ibid.) suggests that some of the challenges are particular to certain traditions but that others can feature regardless of the denomination or approach to worship. Churches, by their very nature, are often sensory environments. Depending on the denomination or approach to churchmanship, some features that can prove challenging to autistic people might include:

- Poorly set-up sound systems,

- Flickering lights,

- Loud music and voices,

- Scents from other members of the congregation,

- Social interaction, including the Peace (social gestures including handshakes, hugs etc.),

- Community activities

(Newman 2011; Hills and Meteyard 2013; Macaskill 2019).

Given the challenges that church environments can present, mobile technology use for the purposes of therapeutic support and distraction may serve as a means of helping autistic children and their families cope in liturgical settings and religious environments.

2.5.5 Autism, Spirituality and Christianity - Conclusion

The UK Christian community has a strong desire to be inclusive of all people, including those with autism spectrum disorders. Churches and other places of Christian worship, however, can present with social and sensory challenges that can be difficult for autistic children and their families.

Autistic people have shared their desire to express their spirituality, including in the case of autistic people who are unable to verbally communicate. The study of Hills, Clapton et al. (2019) and Bustion (2017) have shown that

autistic people can feel frustrated by their experiences within churches and that their spiritual needs can be overlooked or thought of as unimportant.

2.6   Christianity and Technology

This section of the literature review explores existing relationships between Christianity, especially within the UK, and the use of technology. It considers evidence of existing applications of mobile technology within the UK Christian community for use within individual and shared practice. Some of the philosophical and theological factors that may shape mobile technology acceptance, especially within the context of therapeutic and supportive application, are also being considered.

2.6.1   Existing Digital Technology Use in the Church

The advent of new media, including mobile technology, represents opportunities and tensions for religious groups such as the UK Christian Community (Campbell 2016). According to Campbell (ibid.), there are a number of apps that are orientated around religious practice, including those that provide instruction or help regarding religious rituals and practices. For example, within the Roman Catholic Church there are applications to support and teach somebody to pray using the rosary, a chain of beads, where each bead represents a specific prayer. Religious leaders, including Pope Francis, regularly use Twitter accounts as tools for engaging with the public. The Pope posts messages with the intent of engaging not just Catholic followers who see him as a moral and spiritual leader, but also the wider public (Narbona

2016).

Although not specifically designed with the intention of supporting autistic children and their families in spiritual practice within the UK Christian community, there are prayer and religious applications that are used by members of the Christian community, some with scope to be used within liturgical settings. Consequently, their wider use may play an important role in increasing mobile technology use within churches as adoption is increased more widely within the community.

One notable example is the Roman Catholic website and mobile web application, *Universalis*. *Universalis* is a digital Roman breviary which is a book containing the psalms, hymns and prayers that are intended to be recited that day by clerics and members of a religious group (Collins Dictionary 2021). According to Universalis Publishing Ltd (2012), the liturgical calendar represents some 6000 pages over up to 4 volumes, making them heavy and expensive to purchase. *Universalis*, is intended to facilitate prayer and engagement by making the breviary portable. By automating the calendar calculations, it makes the correct readings, psalms and prayers available with as little as a single click (ibid.). The publishers also claim that their application is frequently used by Christians of other denominations, including the Anglican, Methodist and Baptist churches.
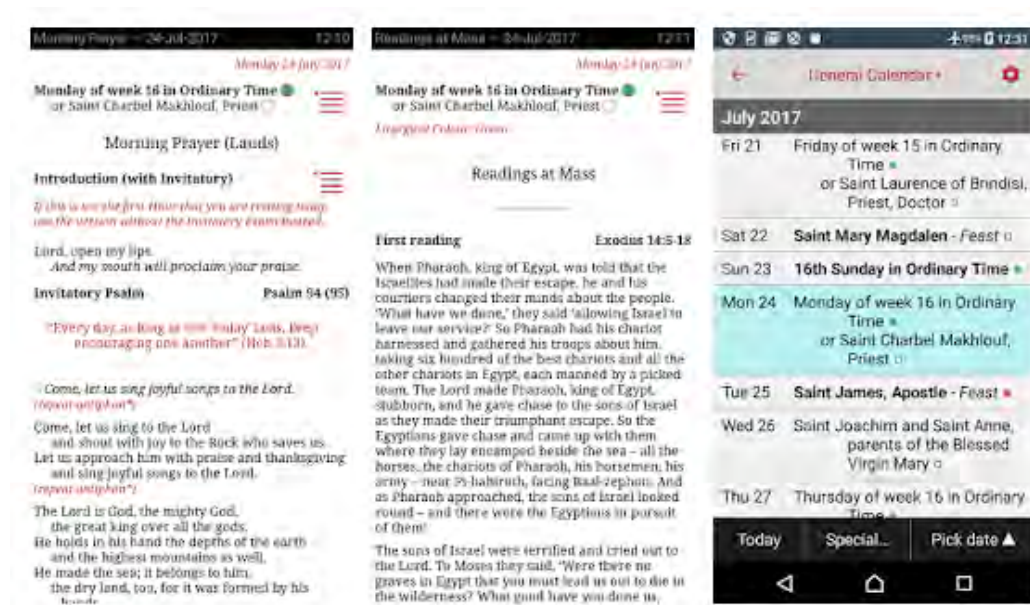
Figure 2.10: Universalis application screenshots in the GooglePlay Store
(Universalis Publishing Ltd 2021)

Although not specific to the use of mobile technology, the COVID-19
pandemic has seen the streaming of Mass and other forms of worship via
Facebook, YouTube and other online services (Caddick 2020). Whilst this has
made church services accessible for many during the pandemic, this has not
been without concerns around the degradation of community and fellowship
(ibid.). Galang and Macaraan (2021) argues, however, that digital spaces
are a significant component of human existence and a potential space for
mission, vocational expression and Digital Apostleship. Within the context
of disabilities and marginalisation, Endress (2021) argues that there is a
continuing role for virtual churches in the enactment of pastoral theology.
Such dialogue suggests that the COVID-19 pandemic has brought about
considerable reflection on the use of technology in the Christian community.

The use of such mobile apps for prayer, while not very widespread at the time of writing, might serve as a motivator for wider adoption of the use of smartphones and tablet computers within liturgical settings. This, in turn, has the potential to normalise such behaviour, making the use by autistic children and their families more socially acceptable.

2.6.2 Theological Thought on Technology

According to Prior (2020), the corpus of literature on the Christian theology of technology is sparse and literature searches undertaken as part of this research reflected this. Nevertheless, it is important to consider, briefly, some of the key Christian theological thought on the use of technology as this may shape acceptance of use. As with the theology of disability, a critique of the theology of technology extends beyond the scope of this project. It might be anticipated that theological thought, however, may shape the perceptions of those in the UK Christian community more fundamentally and, consequently, some brief description of key ideas and concepts are considered in this section.

Ellul

One of the most prominent theologians and philosophers of technology in the twentieth century is Jaques Ellul (ibid.). Ellul was born on January 6th 1912, in Bordeaux, France, where he was raised as the only child of his parents, Joseph and Martha Ellul, of various heritages, including Serbian-Italian and French-Portuguese-Jewish ancestry. He described his childhood as happy but also one of significant poverty (Greenman, Mercer Schuchardt and Toly 2012).

Greenman, Mercer Schuchardt and Toly (2012) stated that it was early during Ellul's study of law that he read Karl Marx and became a Christian. His socialist outlook and the influence he gained from Marx heavily influenced his works on *technique.*

Ellul was a supporter of technological determinism, in that its autonomous nature means that it is now technology that dominates humans (Coeckelbergh 2020). Ellul (1986) argued that the intervention of *technique* had resulted in a disconnect from the natural world and that this has implications for the natural evolution of mankind. He argued that *technique* is the habitat of man and that nature has become an accessory accessed through activities such as agriculture, sport and travel. Technology has become something man has submitted to and, as a consequence, leads to suffering and social problems (Coeckelbergh 2020). Although a believer in Marxism, Ellul argued that it is not capitalism that has created an inhumane world, but the machine (ibid.).

Ellul's view on *technique* has often been interpreted as him being a technophobe, but this view has been challenged (Prior 2020), arguing that he saw *technique* neither as good or bad, nor neutral. Instead, Ellul challenged the almost inherent assumption that technological solutions can necessarily improve a situation, rather than considering the more human aspects, such as improved communication or understanding (Ellul 1986; Franz and Murphy 2015). In other words, just because a technological solution *can* assist, does not necessarily mean that it *should.*

Hefner's Technology and Co-Creator Theology

Christian ontology does not regard God as a "god of gaps", in that He, as the Creator, is at work in all reality (Padgett 2005). According to the views of some theologians such as Lutheran Hefner (2003), the technology that is created through humans, then take on the characteristics of being a "sacred space." Hefner's view can be considered a metaphorical and analytical tool to explain a purpose for humans within the context of nature, and a means by which religion is communicated through science (Kwakye 2020).

This 'created co-creator' view of humanity is not without challenge in Christian theological thought, with the key argument being that man's imperfect nature cannot result in perfect creation (Irons 2004). Regardless of such theological contention, Lorrimar, Torrance and Burdett (2017) argue that Hefner's understanding of humans as "created co-creators" provides a useful point of reference for theologians as they respond to rapid developments in technologies that can impact the future of humanity. Indeed, Irons (2004) argued from a non-theist perspective that Hefner's co-creator ideas, where parallels are drawn between a 'fallen humanity' and a humanity that has evolved via indifferent forces of nature, provides a similarly useful meeting point of ideas within the context of science and technology when considering the future of human development working towards a better world.

Co-creator perspectives, whilst not always consciously arrived at, may support a more positive perspective regarding the use of mobile computing technology within spiritual contexts that is counter to some of the more Heideggerian perspectives that can permeate popular societal view of mobile technology (Coeckelbergh 2020). Mobile technology, particularly within a

supportive and assistive context for children with autism, may be considered by some to be a "God-given" opportunity.

Imago Dei and Technological Enhancement

Imago Dei, as outlined in section 2.4.2, means to be made in the image of God. Cruz et al. (2014), while considering evolution, takes *imago Dei* and links back to Philip Hefner's concept of humans as created co-creators, where humans are highlighted as distinct from other species and that to create is central to their role. When considered within the context of assistive technology, complexities around *imago Dei* may become apparent, particularly around embodiment. Garner (2006) suggests that humans might be seen as cultural cyborgs (without modification by technology) or as biological cyborgs, where technology has 'modified' the body or person in some way (Vicini and Brazal 2015). Where assistive technology such as mobile phones are adopted by autistic children for the purposes of inclusion or spiritual expression, then, this might be considered as a biological modification, where the technology plays a necessary role to facilitate functioning in a community or spiritual setting. As discussed in section 2.4.2, there is no universally approach to the *imago Dei*, but Garner (2006) suggests that the co-creation metaphors of theologians like Hefner, along with a functional approach to *imago Dei*, goes some way to explaining the role of humans in transforming both themselves and the world around them. Such views could be considered to mirror those of French Philosopher Bernard Steigler, who argued that human beings are prosthetic beings with shortcomings that can be compensated for by technology (Coeckelbergh 2020). In the case of *imago Dei*, Garner (2006) and Vicini and Brazal (2015) where technology

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provides enhancement, such theological viewpoint are shaped and tempered by a specific ontology and ethics.

The idea of a mobile tablet being used as an aide in an otherwise inclusive church may be challenging and requires further consideration within the context of the theology of disability and the theology of technology.

Idolatry and Distraction

Concerns around the issue of idolatry of technology within the context of Christianity may play a role in shaping the acceptance of the use of mobile devices within the church, particularly within liturgical contexts.

At a time of rapid expansion of the World Wide Web, Stahl (1999), conducted a study, reviewing articles about digital technologies and media, noting that magical and mystical terminology was being used to describe such technology. In the same text, Stahl also talked about the identity of humans often being described in relation to the technology that was available at the time, e.g. iron age, stone age. Technology, he argued, was more than a tool of use, but part of the identity of humankind. As technology evolves and changes, so does humanity.

Building on the ideas of Stahl (ibid.), Tsuria (2021) argued that digital media within Western Capitalist societies such as the UK has, in effect, replaced the divine because it inspires feelings of awe and sanctity amongst people. Like religion, digital media serves as a tool that everyone has, while connecting and communicating human needs and everyday thoughts.

Such concerns around idolatry possibly present a barrier to the accept-

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ance of mobile technology use within spiritual contexts. There appears to be very literature looking specifically at the acceptance of mobile technology in Christian environments, particularly in a supportive capacity. A similar study, however, was conducted by Hashim, Yussof and Bahrin (2017), where religious perceptions on the use of humanoid robotics (NAO Robots) for spiritual augmentation of children with autism were explored through interviews. The study, conducted in Malaysia and within the context of Islam, showed that, while technology was generally viewed favourably, the humanoid aspect of the robot made such use non-permissible. Whilst confined to Islam and Malaysia as a context, such rejection highlights the importance of cultural sensitivity within religious settings, including where that technology is being used within an assistive capacity for autistic children. Furthermore, Hashim, Yussof and Bahrin (ibid.) also argued that the rejection stemmed from Islamic teachings and that spiritual enhancement should be done only by human beings.

2.6.3 Christianity and Technology - Conclusion

The UK Christian community already has an existing relationship with digital technology, although there is likely to be considerable variation on the basis of the denomination. Even within denominations, various cultures will be encountered. Regardless, the COVID-19 pandemic has seen a shift towards wider use of digital technologies within the UK Christian community, the impact of which on mobile technology acceptance within UK churches will be determined in the future.

The theology of technology and its consideration of mobile devices, es-

pecially in spiritual settings, is still emerging (Prior 2020), but it might be anticipated that there would be some reflection of the philosophical concerns of society as it negotiates and considers its relationship with newly emerging technologies and what these mean for society. Further discussion within such a domain may help shape the policies and views of churches as organisations and improve confidence in such choices.

2.7 Technology Acceptance Theory

Technology acceptance is a relatively mature area of research, having been explored within the context of multiple settings and scenarios. Technology acceptance can be defined as being an approval or favourable reception of a new technology, followed by its ongoing use (Arning and Ziefle 2007). While traditional models of technology acceptance were not used within the context of this research, this section briefly outlines some of the key theories that underpin the discipline of technology acceptance.

2.7.1 Theory of Reasoned Action

According to Taherdoost (2018), the Theory of Reasoned Action (TRA) model was developed in 1975 by Ajzen and Fishbein with the intention of supporting sociological and psychological research around IT users behaviours. TRA (Figure 2.10) predicted human behaviour through three cognitive components including *attitudes, social norms* and *intentions*.
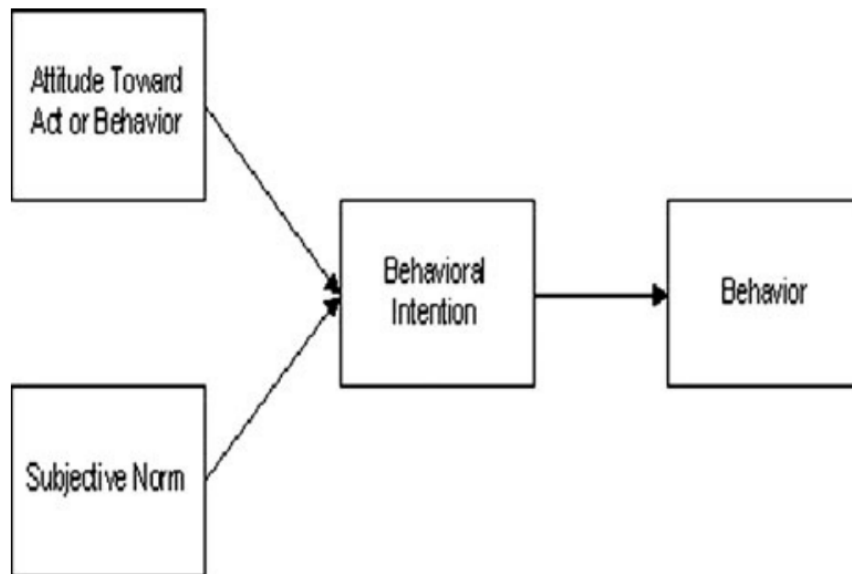
Figure 2.11: Theory of Reasoned Action (Ajzen and Fishbein)

(Oye, A.Iahad and Ab.Rahim 2014)

The TRA served as a foundation for the development of the Technology Acceptance Model (Oye, A.Iahad and Ab.Rahim 2014).

2.7.2   Technology Acceptance Model - Davis *et al* 1986

In response to the risks associated with the investment made by organisations into computer-based tools to support various operations and activities, F. D. Davis (1989) argued that improved understanding was needed to be able to make better predictions about user acceptance. Based on a longitudinal study of 107 users, the authors identified three factors that would indicate users' intentions to use a system. These were, in order of impact: perceived usefulness, perceived ease of use and attitudes towards the system (ibid.)

(Figure 2.11).
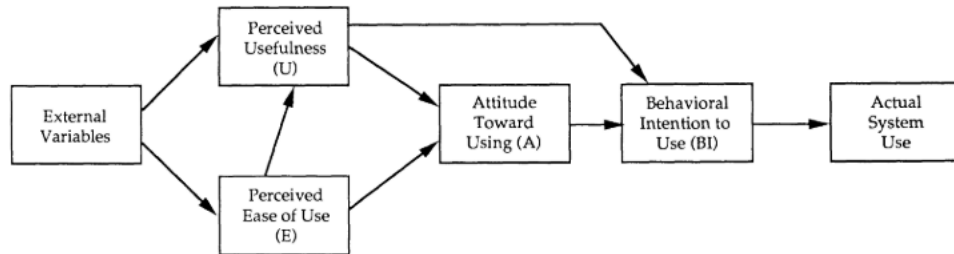
Figure 2.12: Technology Accceptance Model (TAM)

(F. D. Davis 1989)

Subsequently, F. D. Davis (1989) introduced a second version of the model.

An early critique by (Legris, Ingham and Collerette 2003) argued that TAM, while useful, needed to be integrated into a broader model that would include variables related to both human and social change processes and to the adoption of the innovation model.

Since then, the TAM model has been the foundation for a significant body of research into the acceptance of various information systems. It is one of the most widely cited models within the field of technology acceptance (Taherdoost 2018).

2.7.3 The Unified Theory of Acceptance and Use of Technology

The Unified Theory of Acceptance and Use of Technology (UTAUT) was proposed by Venkatesh, Morris et al. (2003). It identified key factors in shaping the acceptance of information technology, including (i) performance expectancy, (ii) effort expectancy, (iii) social influence and (iv) facilitating conditions (Oye, A.Iahad and Ab.Rahim 2014) (Figure 2.12).
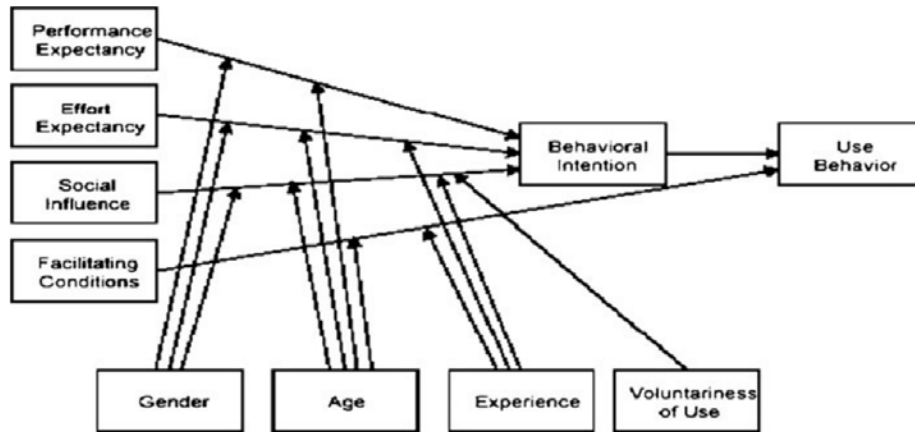
Figure 2.13: UTATUT Model

(Venkatesh, Morris et al. 2003)

Since the UTAUT was proposed by Venkatesh, it has been used as a baseline model that could be extended and modified for applications with new user groups, for new technologies and within new cultural settings (Venkatesh, Thong and Xu 2012). This study falls within the third category, where both Christianity and its various churches are considered as sociocultural groups. Indeed, autism is sometimes considered a culture by some individuals on the autism spectrum.

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2.7.4 Technology Acceptance Models and their Application in This Research

When considering the various models of user acceptance, the definition of user should be considered.

In the case of this study, the child using the mobile computing device might be considered to be the user (end-user). As the operators of the device and software, they can be defined as the end-users. More broadly, however, the definition of *user* could also be extended to those around the end-user, who also benefit from its use. In the case of this research, then the parents or carers of the autistic child, who also could benefit from their child's use of such devices, could be considered users. Examples of such benefits might include the child's comfort during a service, which could, in turn, facilitate the family's presence in church. Furthermore, if it is considered that the mobile computing device is assisting the autistic child in being part of the Christian community, the term *user* could also extend to include the the church, both in its local parishonal or wider denominational sense. This is particularly the case where the autistic child's use of the mobile device is helping the churches meet their vocational and pastoral goals of inclusion whilst supporting them in meeting any legislative requirements.

There are a wide range of potential uses of mobile technology by autistic children in churches, as outlined in . Some of these will appear to be benefiting the wider community (e.g. participation in religious-themed games or being used as a communication tool), whilst others might be interpreted as running counter to those goals (e.g. to support more generic play behaviours). As a consequence, not all purposes of use by the autistic child

might be perceived as beneficial to parents, carers, congregation members, the clergy of the churches in their widest sense.

Perceptions, then, maybe a key determinant in whether parents, caregivers and the wider church members perceive themselves as users. This presents challenges when assessing the acceptance of mobile technology using traditional acceptance models discussed in this section (Section 2.7). This is particularly the case where the models focus on the experiences and perceptions of the direct user.

These models, through their longevity in information systems research, have demonstrated their value

In the case of this research, until there is a conscious decision on behalf of the UK Christian churches and autistic children and their families to facilitate inclusion through the use of mobile technology, models such as TAM and UTAUT may be of more limited use. Once such an established relationship exists, along with the recognition that, by supporting inclusion, the churches are users of mobile computing technology, such models could be effectively applied. Future research can then turn to these models to build a more nuanced understanding of technology acceptance within this capacity.

Further to issues regarding the definition and perceptions of the user, as this research is a phenomenological study of the attitudes and views of senior clerics, the application of theoretical frameworks to the analysis should be avoided. (J. Smith, Flowers and Larkin 2009).

2.7.5 Technology Acceptance Theory - Conclusion

Technology acceptance as a discipline is well developed and the models discussed in this section, including TAM and UTAUT, have demonstrated their worth in building an understanding of the relationship between users and the desire is to adopt the technology. In the case of the study, however, these models were not adopted. Instead, by adopting a phenomenological approach to the research, the research is afforded the opportunity to explore the views and attitudes of the participants towards sensitive subjects such as inclusivity, disability and religious beliefs. Traditionally, such models focus on the needs, experiences and motivations of the users, rather than the *observer* of the user, as is the case with this research.

2.8   Conclusion

Understanding of autism continues to evolve since its recognition in the 1940s (Wing 1981; American Psychiatric Association 2013; National Autistic Society 2021). Consequently, there have been improvements in the recognition and understanding of autism by the wider public. Nevertheless, it is clear from the literature that the social-communicative and sensory processing aspects of autism can present significant barriers to social inclusion, including in churches and other Christian settings (Bustion 2017; Hills, Clapton et al. 2019; Macaskill 2019). In such spaces, social and behavioural expectations may be shaped by tradition and out of a sense of reverence (Kinnard 2019). Behaviours and outward presentation of autism symptoms that may run counter to pious behaviours expected can result in anxieties for both the

families and congregational members. In turn, autistic children and their caregivers can experience stigma, either real or perceived, which can result from social groups (Mak and Kwok 2010; Clair 2018). Such exclusion may mean that autistic children and their families are missing out on the benefits associated with spiritual expression and support from the community (Ekas, Tidman and Timmons 2019), which have been shown in the literature to increase the welfare and well-being of autistic children and carers.

There appears to be a considerable gap in the literature discussing the perceptions of those with autism by other members of the UK Christian community. Only the study that was specific to the UK was found (Waldock and Forrester-Jones 2020). No literature was identified around the acceptance of the use of mobile technology by autistic children in Christian spiritual settings. Only one paper on technology acceptance in support of autistic children within a religious context could be found (Hashim, Yussof and Bahrin 2017).

Given the key role of mobile technology in the lives of autistic children and their families, where it may be used for therapeutic (Pyramid Educational Consultants 2017), diagnostic or monitoring Nazneen2015, Anzulewicz2016 purposes, acceptance in a wide range of settings, including those of a spiritual nature, will be of increasing importance.

This research, then, contributes to the discourse around the presence of autistic children in UK Christian spiritual and liturgical spaces. It seeks to generate an understanding of the themes that may influence the acceptance of mobile technology use by the community when it is used by autistic children.

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Chapter 3

Methodology

"What changes the world isn't a single formula for getting the right answer but a willingness to stop and let yourself be challenged right to the roots of your being."

R. Williams (2011)

3.1 Chapter Overview

The aim of this chapter is to outline the philosophical and methodological techniques that have been deployed in undertaking this research. It begins by introducing the underlying research philosophy and ontological stance, before outlining the approach to collecting and analysing the data.

Previous studies regarding technology acceptance (Lew et al. 2020; Blut, Wang and Schoefer 2016; Göğüş, Nistor and Lerche 2012; Charnkit 2010) have traditionally favoured the use of qualitative or quantitative-qualitative

data collection techniques. This research builds on this body of work by adopting a similar approach to the research design and methodology, with a focus on qualitative data gathering. This research differs from many traditional technology acceptance studies, however, in that it focuses on the experiences, thoughts and feelings of those *observing* the technology user, rather than the user themselves.

Given the research paradigm adopted for this study, qualitative techniques are used to collect data, with an emphasis on exploratory interviews with senior clerics from different Christian denominations. Using this data, the research aim is achieved using an interpretive and inductive approach to building an understanding of social phenomena, in this case, the acceptance of mobile technology in Christian religious spaces when used by autistic children, as observed by the community.

3.2 Environmentally Mindful Approach to Research Design

"But down deep, at the molecular heart of life, the trees and we are essentially identical."

Carl Sagan

In line with Cardiff Metropolitan University's EDGE principles (Ethical, Digital, Global, Entrepreneurial) (Cardiff Metropolitan University 2021), environmental impact was considered in the research design and its implementation in order to ensure that the environmental impact of conducting this

research was minimised. Where participants were located within the Cardiff area, it was initially planned that cycling and public transportation would be used in order to attend interview sessions. Due to the COVID-19 pandemic, however, online interviews were conducted using Zoom video conferencing software, as was intended originally for participants located in geographically distant areas.

For traditional paper-based activities such as note-taking in interviews or when reviewing academic papers, a low-power e-paper tablet (ReMarkable) and online note software (Notion) have been used.

A collaborative online LaTeX editing account with Overleaf was established in order to invite discussion around the content of this thesis and to minimise the need to print drafts.

3.3   Research Design

This research was intended to gain insight into the lived experiences of the UK Christian community with respect to the use of mobile technology (smartphones and tablet computers) by autistic children in churches, particularly in liturgical settings. It focuses especially on attitudes held by the community, which may represent opportunities and barriers to the acceptance of such use. Given the relative lack of literature specific to this area, it was decided that an exploratory study would be appropriate to address the research problem. As an exploratory study, the research operates at a broad and holistic level relative to the community, with a focus on senior clerics as Christian leaders who are representatives of their respective denominations.

It is essential to acknowledge, however, that, while their views may reflect those of the wider churches, their views will also be shaped by their own unique thoughts, beliefs, and lived experiences, of which Christianity will only be one influencing factor (Beck 2021). Each represented denomination has varying levels of diversity within it, including different orders or traditions that shape the views and practices of churches. Given the significant scope for differences, the research design was intended to result in an output that could be a foundation for further research exploring the attitudes towards technology acceptance within Christian settings, particularly assistive technology. Indeed, as Smythe et al. (2008, p. 1392) state, such an approach to research seeks not to provide irrefutable evidence but to provide a foundation for thinking towards the "mystery of what 'is'." It is hoped, then, that this research will inspire further exploration of this area.

This research uses qualitative research methods to explore those experiences and beliefs, in this case, using interpretive phenomenological analysis through unstructured interviews (F. D. Davis 1989). Quantitative and qualitative research approaches are not necessarily dichotomous, nor are they simply a case of either using 'words' or 'numbers'. Moreover, they are determined by underlying philosophies (Cresswell 2009).

As is typical with phenomenological research, it is not the intention of this study to explore the research problem empirically or by verifying a hypothesis (Peoples 2021). Instead, it is the research question itself that provides a framework within which the *sense-making* research takes place. Drawing on literature and existing theories within autism and accessibility research, cultural studies, philosophy and theology, the data analysis can be described as inductive as new insight emerges.

A research paradigm is a worldview or framework through which knowledge is filtered and is where epistemology and ontology come together (Leavy 2017).

3.4 Underpinning Research Philosophy - Phenomenology

Phenomenology is concerned with describing the essence of something as it is experienced and understanding experiences as they are lived. It is primarily interested in the *how* rather than in the *what* of objects. Phenomenology would be less concerned with the weight or chemical composition of an object and more about how the object shows itself, i.e., how it appears (Zahavi 2019). Phenomenology is not, however, merely confined to the subjective or superficial. Zahavi (ibid.) goes on to suggest that, rather than frame our objective reality in terms of an inaccessible and ungraspable beyond, i.e. a phenomenon that must be explained by some 'other', it is enough in phenomenology to argue that the right place to locate objectivity is in, rather than beyond, the world as we observe it. Phenomenology, particularly in a project such as this, where the views of multiple denominations were explored, it is not so much that a reality is created in the mindsets of the participants, but that reality is revealed to the reader through multiple lenses (Frechette et al. 2020).

The definition of what it means to conduct phenomenological research may vary according to the discipline. It may be argued that individual researchers within the same academic domain may interpret and describe their

research as phenomenological in nature despite differences in their approach. It is important, therefore, that this section of the thesis provides a clear description and rationale of the ontological foundations on which the research rests.

This section will focus on the two key philosophers who have influenced contemporary applications of the research paradigm and methodology; Edmund Husserl and Martin Heidegger.

3.4.1 Husserl

Edmund Husserl (1859-1938), was a philosopher and mathematician from Germany. He is widely regarded as the founder of modern phenomenology, more specifically *descriptive phenomenology*, which is also known as *transcendental phenomenology* (Zahavi 2019). Husserl endeavoured to explain how to overcome personal biases and described phenomenology as the science of the '*essence*' of consciousness. He argued that the true meaning of lived experiences could only be achieved by one-to-one interaction between the researcher and the objects of the research, through listening and observation, arriving at a new and enriched understanding compared to that which existed before (Wojnar and Swanson 2007). For Husserl, the crisis in science was that it strove only to measure what was objectively true, meaning that human existence in the world was being overlooked (Beck 2021).

In his later work, Husserl claimed that researchers could achieve an ideal transcendental subjectivity, whereby the researcher is able to eliminate their own lived reality in order to describe the phenomenon being observed in a purer sense (Wojnar and Swanson 2007). This process of elimination is

described as 'bracketing', which involves the conscious and purposeful process of eliminating prior experiential knowledge and personal biases (Wojnar and Swanson 2007; Zahavi 2019; Beck 2021).

According to Wojnar and Swanson (2007), bracketing has been described as:

- separating the phenomenon from the world and inspecting it;

- dissecting the phenomenon to unravel the structure, define it and analyse it;

- suspending all preconceptions regarding the phenomenon and resolving to confront that which is being observed on its own terms and merit.

While bracketing is a feature of descriptive phenomenological approaches, it is perhaps important to, while acknowledging the essence of the researcher and their role in observing the phenomenon that is being observed, make some effort to suspend dependency on prior knowledge to support an openness to listen and to learn (ibid.).

Another key feature of Husserl's work on phenomenology was the concept of intentionality, which is a person's directed awareness of an object or an event (Beck 2021). Consciousness, Husserl argued, is not anything by itself (Zahavi 2019) but is conscious *of* something and that we direct our consciousness towards a particular object, event or experience of the world.

3.4.2 Heidegger

Martin Heidegger was a student and then academic assistant of Husserl while he was a professor at Freiberg University in Germany. Heidegger developed his own views on existential or hermeneutic phenomenology, which is broadly regarded today as development of Husserl's descriptive phenomenology (Sloan and Bowe 2014). It should be emphasised, however, that despite the chronology of the emergence of these two bodies of work, descriptive phenomenology has not been diminished as a means of exploring human experiences.

Heidegger's work on interpretive phenomenology (hermeneutic phenomenology) contrasts with Husserl's in a number of ways, but a particularly stark contrast is that he did not accept that bracketing, in its true sense, could be achieved. The researcher, inevitably, will observe the phenomenon, having being shaped by their own experiences. It was in this sense, Heidegger's interpretive approach to phenomenology represented a key deviation from Husserl's presuppositionless approach (Elliott 2005). The researcher could not fail to be influenced by their very essence during a phenomenological process (Sloan and Bowe 2014; J. Smith, Flowers and Larkin 2009). According to Beck (2021), Heidegger's view held that the objective of phenomenology was to allow the phenomenon to be seen and that this had to be achieved through its interpretation.

Given the context of this study, it is perhaps of note that Heidegger's move to philosophy came about as a consequence of his dealings with theology, which shaped his earlier works (Sloan and Bowe 2014).

3.5 Phenomenology and Christian Beliefs

Christian beliefs form part of an ontological framework that shapes the perceptions of reality as they are held by the participants. These beliefs and supporting theology may inform the views that are held by members of the UK Christian community and are acknowledged as such in this body of work. It should be emphasised again at this point in the thesis that the purpose of this research is not to critically analyse or call into question the validity of those religious views. While this project acknowledges theological views as part of a complex tapestry of themes shaping technology acceptance, this is not a theological study.

The corpus of literature on technology acceptance is relatively extensive and has witnessed considerable growth in the past two or three decades. Notable work such as TAM (F. D. Davis 1989) and UTAUT (Venkatesh, Morris et al. 2003) have served as a basis to support the exploration of technology acceptance within many different domains, from education to banking. Despite extensive literature searches throughout the development of this research, however, very limited technology acceptance literature was discovered within the religious domains, especially with regards to facilitating the inclusion of those with disabilities such as autism or other marginalised communities.

Given this limited research, it was deemed appropriate to respond to the research problem by adopting an exploratory approach the research. Phenomenological methods, including interpretive phenomenological analysis, lend themselves particularly well to such early exploration of a domain and can be foundational to support future research using quantitative or qual-

itative approaches to achieve a more nuanced understanding of the themes shaping technology acceptance in the UK Christian community, possibly using models of technology acceptance that are more traditionally applied. In this case, however, the inclusion of theoretical frameworks and models such as TAM or UTAUT would not be authentic to the phenomenological methodology or underpinning philosophy in that it would constrain analytical exploration of the data (J. Smith, Flowers and Larkin 2009). Such theories also tend to focus on the experiences and motivations of the user, more so than those observing the user.

3.6   Interpretive Phenomenological Analysis

Interpretive Phenomenological Analysis, or IPA, was first articulated as a method of qualitative research in the mid-90s, the development of which was motivated by the field of psychological research. Building on the principles of phenomenology, Interpretive Phenomenological Analysis (IPA) is a qualitative approach to making sense of the life experiences of those who are being studied. It is based on a working assumption that there is an ongoing reflection of the significance of those lived experiences, and it is the aim of IPA research to engage in those reflections (ibid.). It recognises that individuals will have different perceptions of the world around them, as shaped by their own individual experiences, motivations and their personality traits (J. A. Smith and Osborn 2008).

Building on this assumption, IPA is interested in cognitive and emotional entities and it is the goal of the research to find out what a person or persons feel and think about the phenomenon being explored (ibid.). In this case,

IPA is deployed to better understand, in a broad and holistic context, what the thoughts and feelings are about observing children with autism using mobile computing devices within churches, including liturgical settings, such as services, weddings, funerals and the Mass.

According to Oxley (2016), in addition to phenomenology, there are two underpinnings to an IPA methodology; hermeneutics and idiography. As phenomenology has been addressed in section 3.3, attention is now turned to these.

3.6.1 Hermeneutics

In IPA research, hermeneutics represents a shift from the descriptive to the interpretive, where, unlike Husserl's reductionist approach, there is a recognition of the role that the researcher's worldview is inextricably intertwined with the way in which they interpret the data that emerges from the participants' accounts (ibid.).

Underpinning the hermeneutic approach adopted in interpretive phenomenological analysis is the hermeneutic cycle.
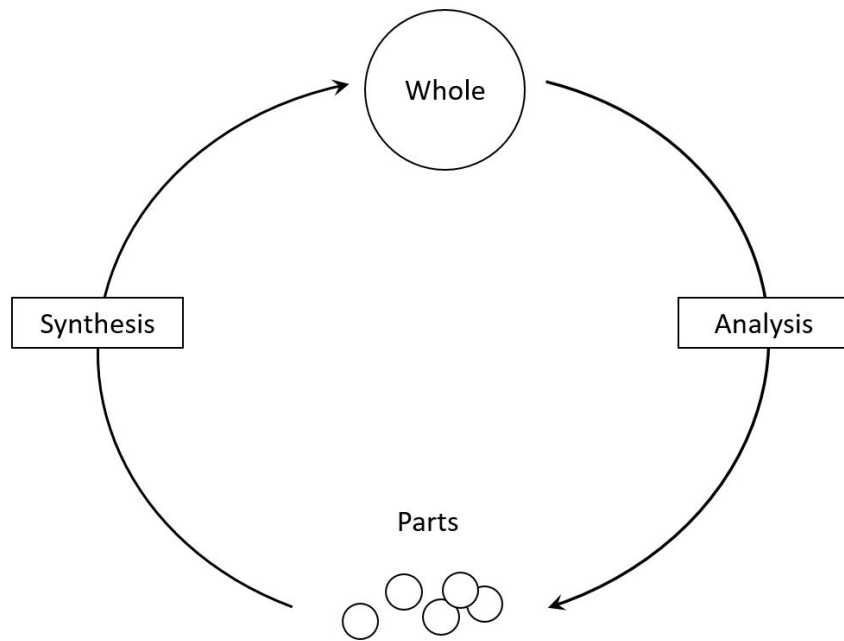
Figure 3.1: The Hermeneutic Cycle
(Adapted from: (Timmer 2015))

The hermeneutic cycle (see Figure 3.1) is a graphical representation of the process of interpretation, where it is necessary to understand the whole in order to understand its component parts while being necessary to contemplate the parts in order to understand the whole (George 2020).

In terms of ending or breaking this cycle, Heidegger claimed that a researcher would know when they arrived at the essence of the observed phenomenon in that their account will demonstrate the relationship between the component parts and will be "rich, detailed and coherent" (Gorichanaz 2017) [p. 3].

3.6.2 Idiography

Differing from traditional nomothetic approaches in psychological-based research, IPA adopts an idiographic approach (Oxley 2016). While commonality and emergent themes across participant cases may be identified, there is a need to examine, independently, each case as important in its own right. Indeed, J. Smith, Flowers and Larkin (2009), key authors of this methodology, emphasise the importance of recognising the value of each case as an individual. While conducting this research, commonality was indeed identified amongst the cases (participant interviews) but there are were also important details in individual cases. Consequently, each case warranted its own results chapter where the transcript was explored individually.

3.7 Rationale for IPA

Technology acceptance within religious settings is relatively unexplored and, at the time of writing, the relationship between the Christian community and technology was undergoing some level of contemplation internally (Caddick 2020; Galang and Macaraan 2021). It was also the case that the COVID-19 pandemic had somewhat accelerated the need for conversation and contemplation within the churches. This project drew on the personal experiences and reflections of the participants in dialogue with the researcher to build a novel understanding of technology acceptance in churches.

As a research approach, IPA is typically used to study matters that are existential in nature, demanding reflection and, potentially, change (Eatough and J. Smith 2012).

As part of the interpretive nature of IPA, it is also said to be a methodological honesty that the researcher acknowledges and draws on their own experiences to contribute to the process of inducting new knowledge. Given my background, it would have been difficult to entirely separate my own experiences from the process (Wojnar and Swanson 2007; Zahavi 2019) and, consequently, bracketing would not only have been difficult but may have also resulted in another part of the essence of the phenomenon being observed being overlooked. A hermeneutic approach, then, was preferable in this case over a Husserlian (descriptive) approach to the study.

It was not simply enough that prior experiences would justify the selection of interpretive approaches to the phenomenological exploration of this project. It was also that the individual participant's relationships with their personal experiences, their faith and attitudes were unique and required respectful consideration on a case by case basis. The necessity for sensitive handling of the cases can be an important motivator in selecting IPA as a methodology, as it was in this research.

3.8 Positionality

"As researchers of this methodology we are never outside our research, never planning ahead with full confidence that we know precisely how it will be; rather we are always already in the midst of the research, confronting the possibilities, making choices, wrestling with the restlessness of possibilities. Such a way of 'being' cannot be learnt from mere instructions. One must live the experience, drawing from who one is and is becoming."

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Smythe et al. (2008, p. 13921)

The term positionality both describes an individual's worldview and the position that they adopt about a research task and its social and political context (Foote Bartell 2011, Savin-Baden Major, 2013 and Rowe, 2014). Similarly, Darwin Holmes (2020) describes positionality as a description of an individual's worldview and the position that they adopt when undertaking research. The individual's world view or 'where the researcher is coming from' concerns ontological assumptions (an individual's beliefs about the nature of social reality and what is knowable about the world), epistemological assumptions (an individual's beliefs about the nature of knowledge) and assumptions about human nature and agency (individual's assumptions about the way we interact with our environment and relate to it) (ibid.).

It was important to acknowledge, therefore, the experiences and ontological assumptions that may shape how the research is undertaken and how this may give rise to the research question.

At the time of writing, I was a member of academic staff within Cardiff Metropolitan University's School of Technologies, where I acted as Head of the Department for Applied Computing and Engineering and, towards the end of this research, as Associate Dean for Partnerships. My teaching responsibilities were principally in introductory programming and mobile application design and development. I have a broad interest in software engineering techniques and the sociological aspects of the use of mobile technology, particularly within the context of mHealth/digital health.

I am also a mother of two autistic children. Our first child, our daughter, was diagnosed with Asperger Syndrome at the age of 4 years, and our third

child was diagnosed with an Autism Spectrum Disorder at the same age, seven years later. Our second child passed away from a birth anomaly called congenital diaphragmatic hernia when she was a few days old. While I had been aware of autism through my work in education, my interest in the condition grew with our daughter's diagnosis. I read extensively on the subject in order to ensure I was best placed to provide appropriate support. We noticed that our daughter had a strong affinity for using technology and would enjoy spending a lot of time on our laptop computers with us, visiting various websites of interest. Lacking in dexterity, she would usually rely on us to operate the computer for her. When our son was born in 2011, the advent of touchscreen technology meant that he was able to operate a tablet independently from a much earlier age. It was this that sparked my interest in the relationship between children on the autism spectrum and mobile computing technology, both from a therapeutic and diagnostic perspective.

I have had a background interest in religions of all types, although, until this research, I had not explored any religion in any formal sense or significant depth. Until my late 30s, my father was an Anglican Priest and my mother is a former theological student and so I grew up in vicarages with exposure to the Church in Wales (Anglican Church) in terms of its theology and practice, but also its politics and culture. More recently, my father was ordained a Roman Catholic priest within the Personal Ordinariate of Our Lady of Walsingham, an enclave authorised by Pope Benedict XVI, both within and in full Communion with the Roman Catholic Church (Personal Ordinariate of Our Lady of Walsingham 2021).

In 2001, I moved to Athens, Greece to marry my husband. During my three years in Greece and in all my years of visiting my Greek family, I have

been able to experience living in a country where Eastern Orthodox traditions are strongly influential of every day culture and represent an enduring part of ethnic identity. In 2011, shortly before the Baptism of our son, I was Christmated and admitted to the Greek Orthodox Church in St. Nicholas' Church, which is the parish church in Cardiff within the Archdiocese of Thyateira and Great Britain under the Ecumenical Patriarchate (Archdiocese of Thyrateira and Great Britain 2021). In practice, recent years have seen my limited practice move between the Roman Catholic Church and within the Greek Orthodox Church.

Combined, these experiences have given me perspectives of church-going from both from a congregational and cultural perspective, partially inspiring the adoption of the use of interpretive phenomenology to approach this research problem. Within the context of this project, my experiences have given me cause to view the Christian community in the UK, not just as a theological entity, but as a diverse cultural community in itself, with it's own hierarchies, traditions, practices, beliefs and politics. During this research, then, I have aimed to draw on these experiences to create a respectful approach to data collection regarding the use of technology, without the intention to critically evaluate or call into question the participants' religious beliefs.

3.9   Case Study

This research can be described as a descriptive/interpretive case study. Although this work was exploratory in that it sought to create an understanding of a phenomenon, it was not an exploratory case study, where cases were se-

lected based on their outcome or where causal themes were sought to explain a phenomenon (Gerring 2017).

In the case of this research and in line with a hermeneutic approach to the study, each interview transcript was treated as a case in its own right and was presented as such within the body of the thesis.

3.10   Consideration for Other Methods & Pilot Study

When this research was in its early stages, a mixed-methods approach to the research problem was considered, including both quantitative and qualitative data collection.

The research was originally intended to incorporate a quantitative data collection as part of a mixed-methods approach. The purpose of the questionnaire was to poll the views of parents of autistic children about their experiences in UK churches and their perceptions of how others within the community felt about their mobile technology use, both in terms of clerical and congregational response. The questionnaire, which was built using Qualtrics software, was distributed electronically via multiple social media channels, including Twitter and Facebook. Electronic questionnaires meant facilitated data collection from multiple denominational settings across the United Kingdom and reduced the need for face-to-face interaction during the Covid-19 pandemic. It also helped to maintain the privacy and anonymity of the participants and their children, particularly as they were being approached about the potentially sensitive nature of inclusion and acceptance

within a religious setting.

The questionnaire was supported by conditional logic in order improve the relevancy of the questions being presented to each individual participant. The participant was also asked questions that determined the terminology that they used. For example, each participant was asked how they describe their place of worship *(church, chapel, prayer hall etc.*, and such language was then piped into the question text.

The survey was accessed via a website www.asdchurchtech.com, where potential participants could read about the study before embarking on completing the questionnaire. Participants were presented with an information sheet and were advised of their right to withdraw from the study at any point in line with ethical practice.

The questionnaire was completed by fewer than thirty participants (complete entries) from a range of denominational settings across the UK. While the data provided some potentially useful insight into the experiences of parents and carers of children with autism, the sample size was deemed too small to be used as a significant contribution to this research.

A number of different social media groups and autism charities were approached to promote the questionnaire for the pilot study and to develop links to support the research, but this was not productive. Some of the charities seemed hesitant to engage in research activities due to existing links with specific universities or because of the prioritisation of workloads in relation to the COVID-19 pandemic.

Most online parental groups that were approached were hesitant to engage

in research surveys and interviews, as they felt that they did not want to be treated as 'guinea pigs' and the promotion of research surveys was strongly discouraged or prohibited under their group rules. Due to the COVID-19 pandemic and the UK being under significant lockdown periods, it was not possible to promote the survey in person and this would have resulted in the data set being geographically constrained.

Furthermore, quantitative data collection does not provide sufficient richness of data for a phenomenological research project, whether that be descriptive or phenomenological in nature (J. Smith, Flowers and Larkin 2009).

For these reasons, the pilot study illustrated that this would not be the most appropriate approach to the research at that time, and so the research design was adapted to suit a more targeted data collection through interviews with elite participants.

3.11   Implementation of the Research

3.11.1   Ethical Considerations

This research was designed to make full consideration of the potentially sensitive nature of the topic, particularly for the participants who represented not only their organisation's views but also their own as individuals. Ethical principles are based on beneficence, non-maleficence along with protection of the participants, along with their well-being, safety and dignity (Iphofen 2011).

Ethics Approval

This research received full assessment and approval from the Cardiff Metropolitan University's Research Ethics Committee before any data collection began. The University's research committee ensured that the research process was supported by clear adherence to ethical research practices, with a focus on data security, confidentiality and reduction for the potential for harm.

Participant Consent

Given the seniority of the participants' roles within the Christian community, the participants were deemed competent to consent to participate. Each participant was provided with a copy of the Participant Information Sheet (Appendix E) at the time of being emailed. At the time of the interview, all participants were reminded of their right to withdraw at any point and were asked for their permission to record the interview at the beginning of the session. Participants were asked for permission for quotation in this thesis document, and there was no request to be anonymous for the interview. While the participant information sheet mentioned anonymity, due to the participants' seniority, they agreed to their names being included at the time of the interview.

Risks to the Participant

Risks to the participant, as identified on the ethics application submitted to the university, centred around distress or discomfort that might have been felt

during the interviews. This could particularly be the case where discussions were focused on potentially sensitive topics such as inclusion or behaviours that might not have been in keeping with the Christian community's teachings. Given the seniority of the clerics interviewed, concern and mindfulness about the reputation, not only of the individual but also of the entire Church, might have been felt. The personal background and experiences of the participant, particularly in relation to the subject of autism spectrum disorders in children or adults, were not known at the time of the interviews.

In order to mitigate this, participants were told in advance how long the interview should take, were reminded of their right to withdraw and were able to conduct the interview via Zoom software. Furthermore, the seniority of the participants meant that they were reasonably experienced in giving interviews in many contexts. Taking a broadly semi-structured approach to the interviews meant that the participant was able to exercise some level of control of the conversation and its direction.

According to Brinkmann and Kvale (2015), a particular challenge of interviews, particularly those that are broadly unstructured or semi-structured, is that it can be difficult to ascertain where the interview formally begins and ends. In the case of this interview, this moment was marked with a comment that the recording would now stop to make it clear to the participant that the formal part of the research interview had ended.

Brinkmann and Kvale (ibid.) also suggests that the intimacy and open nature of semi-structured interviews can result in participants sharing details or comments that they may later regret having shared. It is, therefore, a researcher's responsibility to be mindful of such situations and, where appropriate, redact comments that may compromise the well being or reputa-

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tion of the participant so as to avoid any compromise to their reputation or dignity (Iphofen 2011). Indeed, given the seniority of the clerics in terms of pastoral and theological leadership within the Christian communities, the names of the participants and any identifying features will be redacted in the open-access version of this work and will be excluded from any associated publications that may arise in the future.

The participants in this study could be described as being elite participants and, according to (Brinkmann and Kvale 2015) there is scope for a power asymmetry within the interview to be reduced due to the powerful position of the elite interviewee.

3.11.2 Sample Selection and Size

According to J. Smith, Flowers and Larkin (2009), studies that adopt an IPA approach are conducted on relatively small sample sizes, with the aim of identifying a reasonably homogeneous sample, with the goal of identifying convergences and divergences.

Although the sample size of this study is small, this study adopted the four-step approach to sampling interviews as outlined by Robinson (2014). The framework consists of four points:

- Point 1: Defining a sample universe

- Point 2: Decide on a sample size

- Point 3: Devise a sample strategy

- Point 4: Source the sample

Defining a Sample Universe

A sample universe is established by way of identifying a set of inclusion and/or exclusion criteria, with more specific criteria resulting in greater homogeneity (Robinson 2014).

The UK's Christian community is diverse, made up of different denominations and, within those groups, considerable diversity in terms of traditions, theology and practices. Given the diversity of the UK's Christian community, a purposive sampling technique was used to identify senior clerics and leaders to be approached for an interview. The inclusion criteria was that they should be senior clerics, for example, an experienced priest, Bishop, Archbishop level or equivalent (demographic homogeneity) and based in the UK, holding or having held wide responsibility for leadership of Christian members within the UK (geographical homogeneity).

In order to identify potential participants, a list of the various Christian denominations and groups (Statista.com 2014) was used as a basis to identify and approach potential participants for interview. As this study was exploratory in nature, senior clerics who would represent the views of both their organisation and themselves as individuals were approached. In this sense, the participants represented typical cases, which were intended to represent the central tendency of a distribution, but not the same as the entire distribution (Gerring 2017). While the senior clergy represented the communities that they have led, it would most certainly be anticipated that a much larger sample of participants would yield significantly more variation, as sub-denominational cultural, theological and traditional differences would be revealed.

Decide on a Sample Size

According to Robinson (2014), the sample size in qualitative research is determined by both theoretical and practical considerations.

According to the 2011 England and Wales national census, 58% and 59% of the population of Wales and England, respectively, identified as being Christian. In numbers, this represents 33.2 million people (Office for National Statistics 2012). It should be noted that just over 7% of respondents, around 4 million people, opted not to answer the question regarding religion, which was optional in the 2011 census (Office for National Statistics 2020).
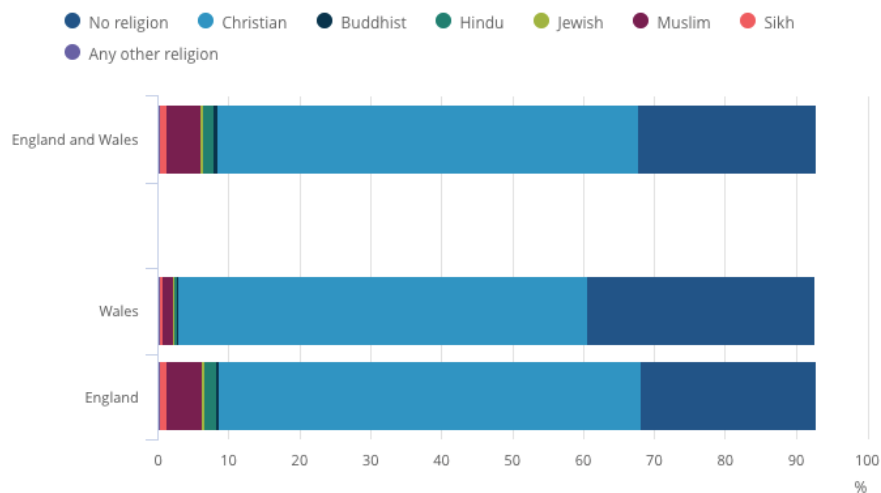
Figure 3.2: Percentage of the Population by Religious Affiliation, England and Wales 2011

(Office for National Statistics 2020)

The Scottish census of 2011, reported similar statistics on Christianity in the UK, with a recorded 53.8% (almost 2.9 million) of respondents identifying

as Christian, again, with 7% opting not to answer the question (Scottish Government 2011; The Scottish Government 2013).

In the 2011 census conducted in Northern Ireland, 1.49 million of respondents identified as Christian, accounting for 82.3% of the population (Northern Ireland Statistics and Research Agency 2011).

Based on the three censuses conducted in 2011, the UK Christian community is estimated to be around 37.6 million people or 59.5% of the population. Within this number, however, there can be considerable variation in attitudes, and practices.

It is evident, then, that to capture a true representation of the diversity of attitudes, practices and traditions that might shape technology acceptance within the Christian community, as explored in this research, a considerable number of participants would have needed to have been recruited using an approach such as randomised sampling within multiple population groups. As this research is exploratory in its approach and given the size of the population, senior clerics were chosen to represent the views of their membership, as well as their own individual views. Indeed, interpretive phenomenological analysis has been said to challenge the view that the number of participants determines the value of the research, with the focus instead being on the richness of data (J. Smith, Flowers and Larkin 2009; Oxley 2016; Alase 2017).

In the case of this study, the sample was confined to three senior clerics representing the Anglican Church in the UK, the Orthodox Church and the Roman Catholic Church. These participants were identified and recruited on the basis of theoretical and practical considerations in that they met the inclusion criteria outlined in this section and were able to respond to an

invitation to interview (Robinson 2014).

Devise a Sample Strategy

According to Robinson (ibid.), once the sample universe has been defined and an exact or approximate sample size has been identified, decisions are needed around what cases to select for inclusion in the study.

Sampling was purposive (J. Smith, Flowers and Larkin 2009; Robinson 2014) in that non-random strategies were employed to determine that specific participants were recruited within the sampling universe and to ensure representation in the final project. The sampling also adopted elements of convenience sampling as availability and willingness to participate were of importance. This was an issue that was further complicated by the COVID-19 pandemic, which determined which groups within the sampling universe were eventually included.

At the beginning of the study, there was no fixed sample size as a target, but there was a specific need to incorporate at least one major Christian denomination.

Sourcing Sample

Once a sample universe, sample size and strategy were decided on, there was a focus on approaching and recruiting participants, a stage of the process requiring strategy and organisation, along with an ethical and sensitive approach (Robinson 2014), the latter being especially the case given the context of this research.

In order to approach participants, Emails were composed and sent to senior leaders or their assistants in various denominations. The email contained a short outline of the project along with the invitation to conduct an interview of no more than one hour via video conference software to ensure social distancing and to outline the time commitment on their behalf.

Due to the sensitive nature of the subject, a website was created to introduce the project, including a rationale for the project, an FAQ and a little about the researcher. This website outlined key ethical concerns, particularly around privacy. The link was included in the email sent to the potential participants. In order to facilitate sharing, a URL was registered with Google for www.asdchurchtech.com. This was previously used for the sharing of questionnaire data (see Section 3.10).

The website was created using the online website creation company Wix. The company's tool was chosen as a rapid way to produce a professional-looking website, allowing more time to be devoted to the research. Given the relatively simple nature of the website, a template was selected and modified to create the landing site.

Once created and before distribution, the website was checked by Cardiff Metropolitan University's chaplaincy team for appropriateness of language, imagery and to ensure that it was academically appropriate.

Key participants were recruited from the Anglican Church, Roman Catholic Church and an Orthodox Church in the UK. Other denominations were approached, including the Methodist Church, the Baptist Church, the Church of Scotland (Anglican) and the Church in Wales (Anglican). These groups either declined or did not respond. Multiple people were approached in each
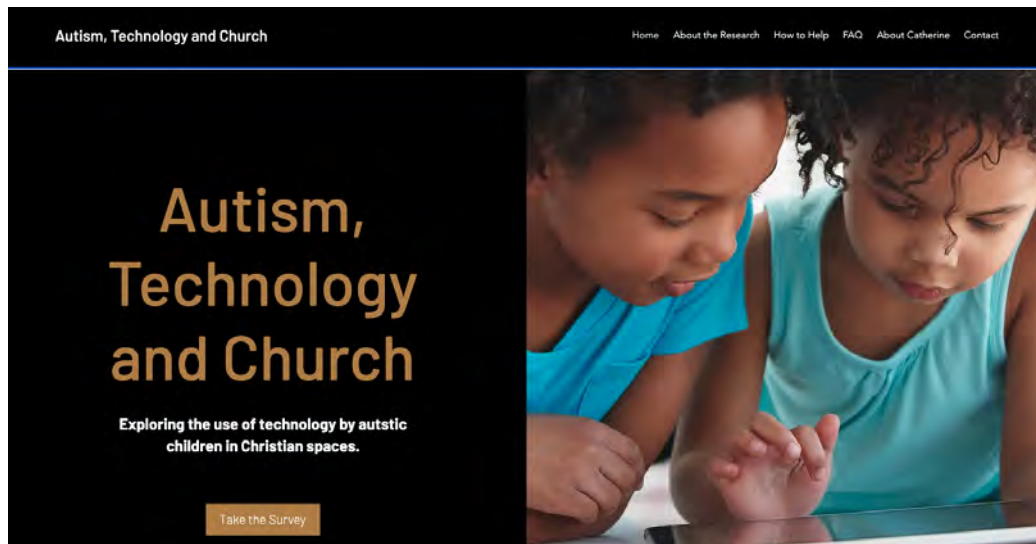
Figure 3.3: Research Website: Landing Page
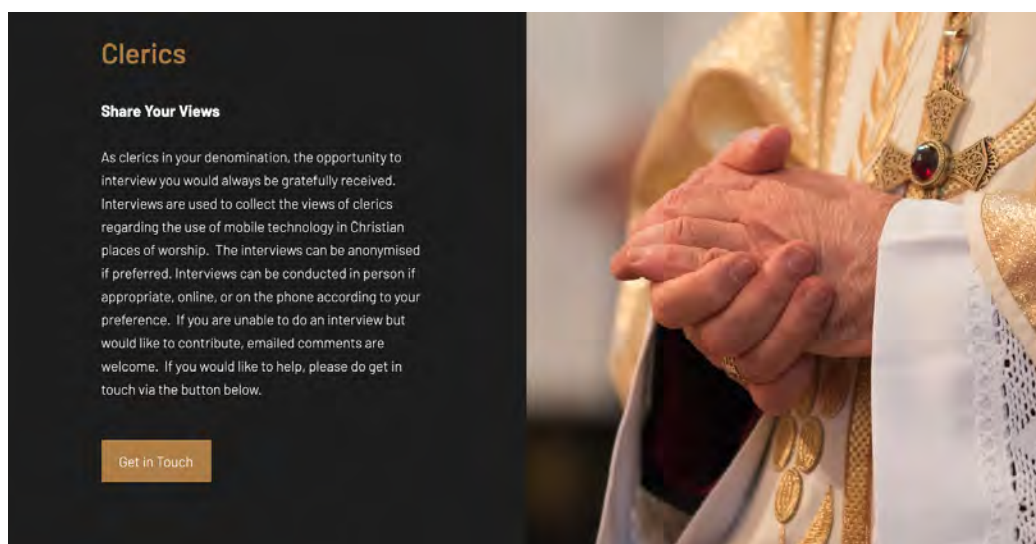
Figure 3.4: Research Website: Cleric Section
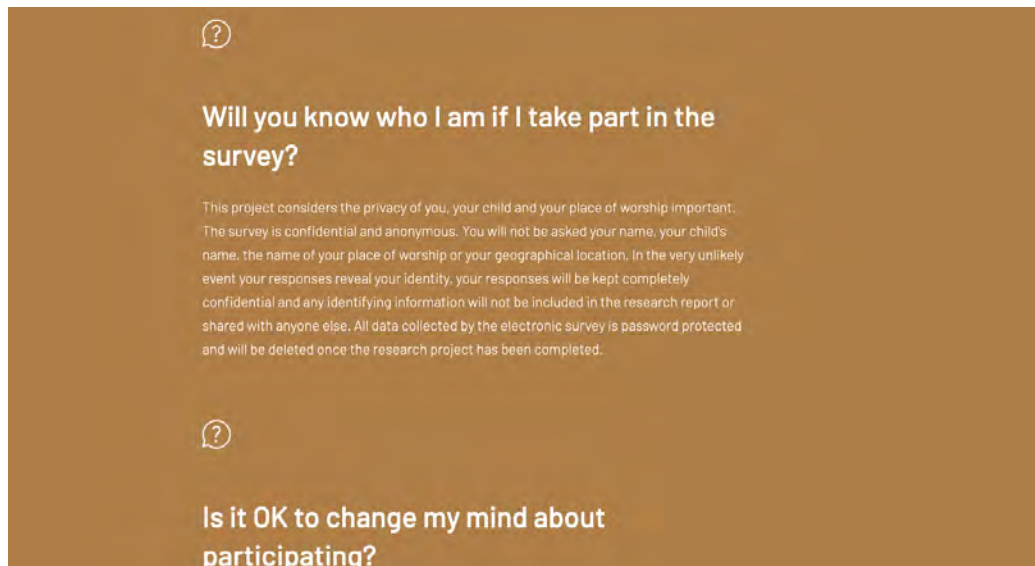
Figure 3.5: Research Website: FAQ Section
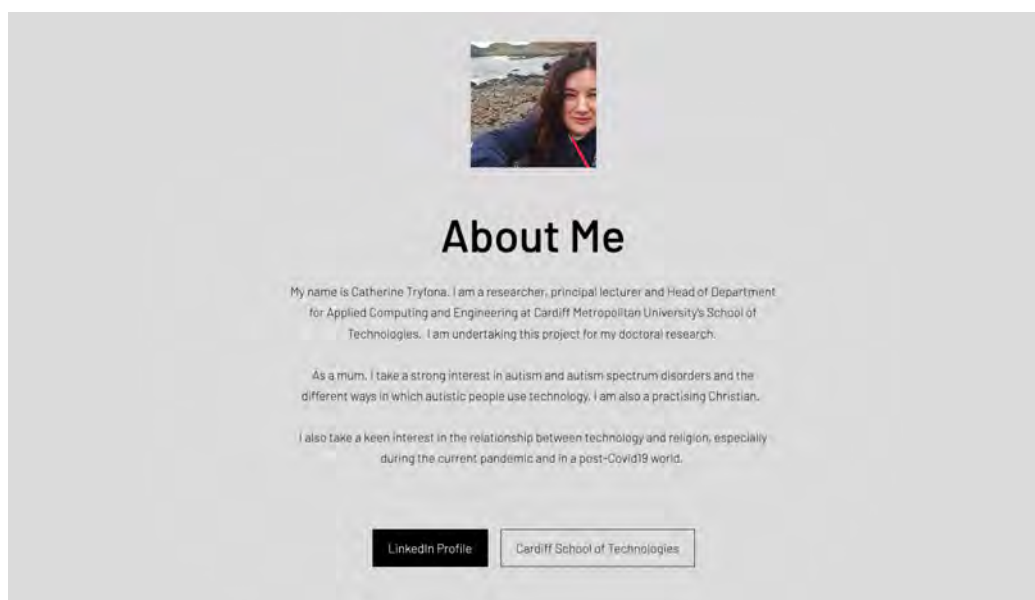
Figure 3.6: Research Website: Parental Section

group.

3.11.3   The Participants

Three senior clerics agreed to participate in the study, each representing a specific denomination within the UK Christian community.

The Anglican Church

The Anglican participant had extensive experience in the role of both a Diocesan Bishop and Archbishop within the Anglican Church. The participant was recruited in order to provide insight into the wider Anglican church in the UK. According to the Office for National Statistics (2012), the Anglican Church in England, Scotland, Wales and Northern Ireland is the largest Christian denomination in the UK. The participant also has experience of academic research and teaching.

The Eastern Orthodox Church

The Eastern Orthodox participant, at the time of writing, was a serving Metropolitan Archbishop within an Eastern Orthodox Church within the UK. The denomination he represented had over 100 parishes and monasteries in the UK and Ireland. The particular parishes he looked after served a wide range of Eastern Orthodox Christians from a wide-range of ethnic backgrounds. The participant also has experience of academic research and teaching.

The Roman Catholic Church

The Roman Catholic participant, at the time of writing, was a serving Diocesan Bishop within the Roman Catholic Church in England. The participant was nominated to support this body of work by Cardinal Vincent Nichols, the 11th Archbishop of Westminster and President of the Catholic Bishop's Conference of England and Wales (Diocese of Westminster 2021). The participant also has strong links to various organisations to support individuals with learning disabilities.

3.11.4 Data Collection: Interviews

J. Smith, Flowers and Larkin (2009) state that IPA depends on a data collection method that creates an opportunity for participants to offer a rich insight into their experiences through detailed first-person accounts, including feelings and thoughts about the researched phenomena, which can then be drawn upon. Given this, IPA is traditionally associated, although not exclusively so, with semi-structured interviews (Schwartz-Shea and Yanow 2013).

This research does not significantly deviate from this approach, although it was decided that the structure in place for the interviews would be minimal. Semi-structured interviews afford the participant the opportunity to discuss topics that they feel are relevant to the topic being explored but guide the conversation in order to help meet the research aim (J. Smith, Flowers and Larkin 2009). They also provide the novice researcher with some scaffolding to guide them through the interview process. In the design of this

research, however, it was acknowledged that this would be particularly important given the seniority of the participants who, it could be argued, could be described as *elite* participants, who are more traditionally interviewed using unstructured interviews in deference to their experience. Consequently, it was decided that an unstructured approach to the interviews would be adopted in order to afford the participants the flexibility and scope to navigate a potentially sensitive topic. Furthermore, in deference to their experience and time constraints, whilst the interviews were bound to time, they were conducted in a way that allowed the participant to talk as freely as possible. Quinney, Dwyer and Chapman (2016) state that the art of conducting an unstructured interview within the context of phenomenological studies is to acknowledge and value the stories presented by each participant as they explore personal experiences with the interviewing researcher.

Given the constraints on the participants' time, especially during the time of the COVID-19 pandemic, the interviews were conducted at a time that was convenient for the participant. It is perhaps of note that, due to the pandemic measures of social-distancing and stay-at-home directives from the UK Government (IFS 2021), the participants were more used to using video conferencing for meetings than had previously been the case. It also may have opened up more opportunities for them to find a gap in their schedules to be able to contribute to this research.

Once a time was identified, the interview was conducted using Zoom video conferencing software and was recorded, creating both a video file and an audio file. These were later used in the transcription of the interviews. Upon completion of this research, all copies of the videos will be deleted in accordance with the ethics application.

Interviews v Conversation

The interviews that took place with the participants were more conversational than was anticipated. These were largely unstructured, although the same prompts were brought into each session. These quotes were not consistently applied at the same point in the interview and not all quotes were presented to each participant. According to J. Smith, Flowers and Larkin (2009), it is not necessary to ask the same questions or, in this case, quotes of each participant.

These quotes were selected to prompt the conversation if needed or appropriate. Whilst limited use of questions could have been used, even within the context of unstructured interviews, it was anticipated that quotes might be less leading and more open to the personal interpretation of the participant.

These quotes included:

> "*Technology, per se, does not assault the Gospel, but a technological society will find the Gospel irrelevant*" (Wells 1995, p. 12)

This quote was selected as it suggested that there was a duality to the issue of technology within the context of Christianity, in that the devices might not be the problem, so much as a societal response to technology.

> "*Our human task as craftsmen or manufacturers is to discern this logos dwelling in each thing and to render it manifest; we seek not to dominate but to co-operate*" (Ware 1979, Loc 479)

This selection of this quote was to explore any potential insight into the importance of the software engineering or technology production processes.

The dialogue, while it contained some points of commonality, which represent the emergent themes during the data analysis, deviated in each case. Indeed, this was a cause for concern during the research as this represented a deviation from an inherent goal to keep each case consistent in the interests of fairness and to facilitate subsequent analysis. Smythe et al. (2008), however, argues that each interview is an event that simply *is* and that too much rigidity risks deviating from the very essence of the IPA methodology - interpreting the phenomenon as experienced by the individual. Indeed, the authors also draw the parallel that minimising play within the interview is to tighten the nut on a wheel so much that it can no longer turn.

The Interviewer

Given the phenomenological underpinnings of this research, particularly in the case of IPA, the interviewer takes on the role of a participant rather than a pollster or prober. As a *participant-type interview*, the interviewer conducts their role in the interview by adopting an active part in creating the conversation, striving to "reach knowledge in the sense of episteme" (Brinkmann and Kvale 2015; McGrath, Palmgren and Liljedahl 2019, p. 109). Taking this approach presented a number of benefits, including:

- It supported the goal of interpretive phenomenological analysis, which is about bringing oneself and experiences into the research as a methodological honesty, as a co-creator of understanding and insight into the researched phenomenon.

- It contributed to the context of the interview. It contributed to a sense of trust and respect, which can be particularly important when exploring sensitive areas around the concepts of inclusivity, equality and faith.

According to Vandermause and Fleming (2011), philosophical hermeneutic interviewing requires skill in the art of listening and flexibility regarding the direction of the dialogue. This is reflective of the necessary sense of openness referred to by Smythe et al. (2008) to avoid the issue, metaphorically described as the over-tightening of a nut reducing play in a bicycle wheel. As a novice researcher, the balance between play and structure was a challenge. Due to the prominence and schedule of the elite participants, it was not possible to revisit the interviews with them and further clarify their thoughts and feelings, which, as a novice researcher, may have been beneficial. It should be noted on reflection, however, that fidelity to interpretive phenomenology as a research approach can mean accepting the interview as it happened and basing any interpretation on the events as they unfolded. In this sense, follow-up interviews were not required. Indeed, J. Smith, Flowers and Larkin (2009, Loc 1394) state that, "good research interviews require us to accept, and indeed relish, the fact that the course and content of the interview cannot be laid down in advance". If follow-up interviews were conducted, it might have resulted in a different interpretation as a result of the respondents providing different answers. Whilst there was an initial desire to revisit the interviews with participants, on reflection, this was not necessary for the methodological approach deployed within the research.

Context

The context of an interview can play a role in shaping the perceptions of both the interviewer and the interviewee during an interview. There are many aspects of communication that occur during an interview that are external to that which is exchanged verbally. This can diminish the quality of the conversation to some extent (Khalil and Cowie 2020).

Using video conferencing software to conduct interviews brings its own benefits and disadvantages, including:

- It creates a sense of removal that can both work to the advantage and disadvantage of the participant

- Nuances of communication can be missed

- Less travel is required.

- So-called 'Zoom fatigue' can occur, where it can be tiring to talk extensively on camera (Nadler 2020).

- Poor signal, especially during a time of high demand on local networks as a consequence of the pandemic, could occur (Lynch, Krause and Douglas 2021).

The video interviews that were conducted as part of this research were impacted by poor signal, at times, which meant that the conversations were a little disjointed in parts. The interviews were conducted during business hours during the summer months of 2020 when demand for bandwidth was particularly high. These small interruptions, however, did not detract from

the content of the interviews and in the few instances where the content was lost, the participant was prompted to repeat the point for clarity.

A notable benefit of video interviews for the purposes of this research is that it made it relatively easy to gain access to high-profile participants. Whereas an in-person interview might have required travel, either for the researcher or participant, the interview could be booked as any other meeting in the participants' work schedules, perhaps making it easier for them to find the time to contribute to the study. Whilst it cannot be claimed with certainty, and this may have made it easier for the participants to devote time to the study. One participant, at the end of their interview, reported feeling tired of talking on camera for several meetings a day.

The ability to record the Zoom interview provided an opportunity to return to the interview during the transcription and early stages of the analysis. The ability to re-watch the interviews went some way to mitigating some of the loss of nuances of communication, as identified by Lynch, Krause and Douglas (2021) and to reflect on the interview technique that was used during the data collection.

3.11.5 Transcription

Transcription of interviews is the process of textually recording the content of the interviews that have taken place and is done with a view to supporting the process of analysis (Brinkmann and Kvale 2015).

In the case of this research, the transcription was undertaken manually with the use of a transcription pedal and transcription software (Ex-

pressScribe). This option was taken in order to support a reflective engagement with the recordings (data) at the time of transcription.

The interview data in this research was transcribed verbatim, including fillers such as 'Um' and 'ah', along with pauses. While no standard template for transcribing interviews was used, a consistent approach to the recording of pauses and fillers was applied across all transcripts. This was done for the purpose of facilitating the analysis of the text by identifying moments of contemplation, hesitancy and reflection on the part of the participant. Transcription was done in a timely fashion within one week of the interview taking place. This was to help ensure accuracy and that transcription, often a time-consuming process was done in good time (McGrath, Palmgren and Liljedahl 2019).

The accuracy of the transcript was undertaken by reading through each transcript two times while listening to the audio or video recording. Interview transcripts can also be validated by being sent to the participant for agreement (ibid.). Although a copy of the transcript was offered in each case, this was declined with the exception of the one participant, who requested a copy of the outcome of the thesis to support possible policy-making decisions.

3.11.6 Presentation of Results

The data from the interviews can be found in the data Chapters (Findings) 4, 5 and 6 of this thesis.

- Chapter 4 - The Anglican Church (page 168)

- Chapter 5 - The Eastern Orthodox Church (page 195)

- Chapter 6 - The Roman Catholic Church (page 217)

All quotes in the data chapters (Findings) that appear in *italics* and "quotation marks" are by the participant and are sourced from the interview conducted as part of this research.

Before each interview commenced, the participant was reminded of the purpose of the interview, offered the opportunity to view a copy of transcript and was asked again if he would be happy for the interview contents to be attributed to him and included in the PhD thesis. Each participant agreed to this, although the results have been broadly anonymised in case of a change in the participants' personal circumstances. This was clarified because the original participant information sheet, which was written before securing the participants, offered anonymity. Due to the prominent role of the participant, it would be difficult to assure complete anonymity as there may be some recognition through quotations.

Emergent themes are identified in square brackets ([**ETs:**]) after each quote. The emergent themes that were identified during the analysis are listed in reducing order of interpreted significance, with the first being the most significant.

Where the signal of the video call dropped out and the words of the participant are suggested [*assumed words*], these appear in sqaure brackets within the quotes. Where they are missing due to inaudibility, these are included with double dots [..].

Quotations, for the purposes of reference elsewhere in the thesis, are numbered with the following format:

Chapter number   Quotation number

[Q4.1]
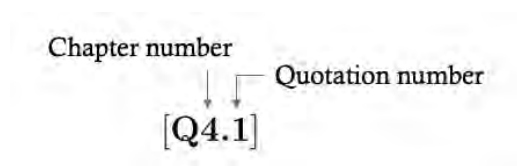
3.11.7 Data Analysis

Interpretive Phenomenological Analysis will often draw on thematic data analysis techniques. Using NVivo software to support the process, each case (interview) was initially processed on an individual basis using an adapted approach outlined by J. Smith, Flowers and Larkin (2009). This is outlined below:

Step 1: Reading and Rereading

Initial familiarisation with the interview data was achieved from the transcribing process and subsequent error checking, following which came an initial and repetitive stage of engagement with the data (ibid.). Where it is often a case of summarising data quickly, conversely, this stage required a 'slowing down', to listen to the interview, repeatedly read to gain insight into the participant and what they are saying. Each interview was listened to twice and re-read multiple times.

Step 2: Initial Noting

Step 2 often begins with no clear demarcation from the first step of the process (ibid.). Keeping an open mind, the researcher then starts to annotate

the interview marking anything of interest. There are no rules about what
is or is not marked and this can be described as being close to a free-text
analysis.

In the case of this research, exploratory note-taking was carried out, where
text thought to be of importance was underlined and annotated.

Step 3: Developing Emergent Themes

Following on from Step 2, a larger data set emerged as a consequence of
annotation and commenting on the transcripts. It was this data set that
served to support Step 3 of the analysis, which was to identify emergent
themes. This is achieved by reducing the volume of notes, while maintaining
any mapping of connections and mapping of exploratory notes, with an in-
creasing analytical shift to the notes, rather than the transcripts (J. Smith,
Flowers and Larkin 2009). J. Smith, Flowers and Larkin (ibid.) goes on to
state that this stage represents a manifestation of the hermeneutic circle,
where the original whole of the interview becomes a set of components, but
that they come together in a *new* whole at the end of it. This stage of the
analysis also represents a crucial stage of the *interpretive* phenomenological
analysis, as the researcher is taken further away from the original participant
and brings more of herself into the process, resulting in a collaborative ef-
fort between researcher and participant (J. Smith, Flowers and Larkin 2009;
Eatough and J. Smith 2012; Oxley 2016).

As demonstrated in the hermeneutic cycle, where the part is interpreted
in relation to the whole and the whole is interpreted in relation to the part,
the focus, at this point, was placed on identifying what was crucial at this

point in the text, while being influenced by the whole text.

Step 4: Searching for connections across emergent themes

According to J. Smith, Flowers and Larkin (2009), the researcher is encouraged to explore with a sense of innovation in terms of the organisation of the analysis and that the emergent themes identified can be kept or discarded, depending on the scope of the research itself. The aim of this stage, then, was to draw together the emergent themes from the data and produce a structure which pointed to the most interesting and important parts of the account of the participants.

While commenting and thematising on the computer is discouraged by J. Smith, Flowers and Larkin (ibid.) for novice users, this process was undertaken using software, including NviVo and Notion. This was decided due to issues around space, portability and the researcher's own organisational preferences and existing habits.

Step 5: Moving to the next case

Once one interview (case) was explored, the next transcript was processed. IPA calls for each case to be treated on its own terms in order to do justice to its own individuality, which is in keeping with IPA's idiographic commitment (ibid.), where each individual is considered as a unique individual in their own merit. It is inevitable, however, that what has been already processed influences the perceptions of the researcher in going into the next and this was found to be the case.

Step 6: Looking for patterns across cases

Step 6 of the process focused on identifying the emerging themes that were particular to the individual cases and the higher-order concepts that were shared across the participants' interviews. This stage of IPA can be represented in a number of ways, including graphically (see Chapter 7), or in a thematic table.

3.11.8   Quality of Analysis

Assessing the quality of qualitative research is subject to ongoing discussion and traditional tools associated with a more positivist or quantitative research approach may not be applicable. J. Smith, Flowers and Larkin (2009) identify Yardley (2000) as having broad-ranging criteria that offer a range of ways of establishing quality in qualitative research work such as this project. Yardley (ibid.) argues that qualitative researchers can receive criticism from their quantitative counterparts for failing to select representative sample sizes, yield objective findings or replicable outcomes. Indeed, in the field of STEM, more specifically technology-based disciplines, the application of such methods is less commonplace. In response to such critiques, Yardley (ibid.) goes on to suggest that a statistically representative sample size using quantitative methods such as interviews, as utilised in this research, would produce too much data to be analysed in sufficient depth. In the case of this research, targeted and theoretical sampling was used to choose participants who, by their characteristics, particularly their rank within their denomination and understanding of the population that they lead or have led, represented extreme exemplars of the population of interest (ibid.).

Yardley's approach to assessing the quality and validity of qualitative research is based on four essential qualities (Table 3.1):

Essential Quality	Application
Sensitivity to Context	*Theoretical; relevant literature; sociocultural setting; participants' perspectives; ethical issues*
Commitment and rigour	*In-depth engagement with topic; methodological competence/skill; thorough data collection; depth/breadth of analysis*
Transparency and coherence	*Clarity and power of description/argument; transparent methods and data presentation; fit between theory and method; reflexivity*
Impact and importance	*Theoretical (enriching and understanding); socio-cultural; practical (for community, policy makers, health workers*

Table 3.1: Characteristics of good (qualitative) research (Yardley 2000)

Sensitivity to Context

J. Smith, Flowers and Larkin (2009) suggests that sensitivity to context is often one of the principal motivators for researchers selecting IPA as a research method, with the rationale for such a choice being the need to be sensitive to the context of the study. Indeed, as was the case with this research, there was a particular need to be sensitive to the nature of the discussion around a number of topics, including the inclusion of those with neurodiverse presentations and disabilities (especially children), religion and religious beliefs and the potential impact of such discussions on participants in the study. This was especially the case, given that the participant's answers could have an impact on reputation.

As both Yardley (2000) and J. Smith, Flowers and Larkin (2009) suggest, purposive sampling techniques, as adopted in this research to select senior clerics, sensitivity and respectful approaches are required in order to access participants whose participation may be central to the viability of an IPA study.

As is typical with IPA (J. Smith, Flowers and Larkin 2009; Oxley 2016; Zahavi 2019), this research drew on the personal experiences of the researcher as a tool to promote a sense of safety in which the participant and researcher could actively engage in a dialogue that explored such a potentially sensitive topic.

Commitment and Rigour

According to Yardley (2000), commitment represents a prolonged engagement with the topic, although not necessarily as a researcher. Indeed, IPA as a methodology draws upon the personal experiences of the researcher and my experiences, as outlined in section 3.8, have served as a foreground for this research.

Rigour is a reference to the completeness of data collection and subsequent engagement. In the case of phenomenological studies, it calls upon the researcher to commit sustained and deep engagement with the data in order to bring about theorising that transcends the commonsense and superficial conclusions that might otherwise emerge (ibid.). Yardley (ibid.) goes on to suggest that intuition and the imagination of the analyst can be important and that any analysis that results should be transparent and coherent, for example, through the inclusion of transcripts. This must be balanced, however,

with mindfulness of ethical responsibilities towards the participants.

Transparency and Coherence

Transparency can be demonstrated through the effective presentation of analysis and data, including the methods and approaches used to collect the data, along with any rules or frameworks used to inform decisions regarding the coding of the transcripts and any decisions made regarding the identification of emergent themes (Yardley 2000).

In addition to a clear account of the practicalities of the approach to the research and how it was undertaken, there should be transparency regarding the motivations behind the research.

In the case of this research, data is made openly available during the examination process through chapters 4, 5 and 6.

Impact and Importance

Impact and utility are the decisive criteria by which a piece of research should be judged. While there are various measures of this 'usefulness', research can be assessed in relation to what were the original objectives of the analysis (identify themes that influence the acceptance of the use of mobile technology by autistic children in Christian liturgical settings), the applications it was intended for (to raise understanding in the UK Christian community and autistic community) and for the community for whom the findings were deemed relevant (ibid.).

Given the important emphasis Yardley places on this crtierion, further exploration of how this project has met these standards are discussed in Chapter 8 (Conclusion).

3.12   The Impact of Covid-19

During the course of this study, the world was hit by the COVID-19 pandemic, which was a consequence of the zoonotic spillover to humans of the novel coronavirus, SARS-CoV-2. The spread of this virus across the world has resulted in lockdowns in the UK for periods of many months (the first being in March 2020), resulting in significant disruption to the way we live our lives. Inevitably, this has impacted this research in a number of different ways.

3.12.1   Impact in the UK Christian Community

The pandemic resulted in restrictions placed on places of worship in the UK, bringing about changes in practice and use of technology (IFS 2021). These include but are not limited to:

- Extended periods of closure for many church buildings,

- Limited congregational access and seating for all liturgical settings, including weddings and funerals,

- The use of video-conferencing software for interaction amongst church members, including clergy,

- Increased use of mobile phones, tablets or printed sheets in lieu of prayer and hymn books,

- Introduction of NFC payments for collection in some churches,

- Live streaming of services, including via social media.

Whilst some of these practices were already in place in some churches, many found themselves adopting these measures for the first time in response to the pandemic (Caddick 2020). Although the situation is ongoing at the time of writing this thesis, the COVID-19 pandemic is likely to continue to herald in significant changes in the relationships between many within the case-study population and technology, some of which may prove to be permanent. Whilst the relationship between society and technology is ever-evolving, the rate of change that has been brought about by the pandemic served as further imperative to conduct this research in a timely fashion so that it might serve as a useful contribution to the discourse around the use of technology in spiritual spaces.

3.13   Chapter Summary

This research work adopted an interpretive phenomenological approach to exploring the views and attitudes that shape the acceptance of mobile technology by the UK Christian community when it is used by autistic children in churches and liturgical settings. Following due consideration of ethics and good practice in research, the data collection was carried out through the use of largely unstructured interviews with senior clerics in three different denominations. Drawing on the experiences of the participants and the researchers

and following a manual transcription of the interviews, the data underwent a thematic analysis to identify the main emergent themes in the data. These emergent themes represented the themes that shape mobile technology acceptance within the context of this study. The quality of the research was measured using Yardley (2000) measures of quality in qualitative research, as identified by J. Smith, Flowers and Larkin (2009).

Chapter 4

Results: The Anglican Church

For details on the presentation of results, please refer to Section 3.11.6 of the Methodology on page 156.

To open the interview, the participant was informed that there would be an interest in his views on the acceptance of mobile technology within the Anglican Church, particularly in an assistive capacity. To help initiate the conversation, a quote by Professor David Wells, a conservative Christian theologian, was shared - "Technology, per se, does not assault the gospel, but a technological society will find the gospel irrelevant" (Wells 1995, p12). This quote, which hints at a potential conflict between Christianity and technology was introduced to explore whether such conflict is perceived by the participant.

> [**Q4.1**] - *"Yes, I think another way of putting it would be to say, you know, technology is a good servant and a bad master here and, if you know what human and face-to-face purposes technology*

is serving, that's one thing. If you assume that all problems can be resolved by technological fixes, that's another. So, I would guess that a lot of churches would start from there. How does technology actual enhance the primary face-to-face or physically corporate side of things, rather than replace it or treat it as a set of problems to be solved by other means?" [**ETs:** Purpose of Use; Theological Thought]

In this quote, the participant talked about the idea of the purpose of use of the technology being important. The statement regarding "*technology being a good servant or a bad master*" illustrates the importance of a considered and meaningful use that is not at odds with the theology and the philosophy of the Christian community. The idea that technology is seen as a solution to all problems hints at potential concerns about it not becoming a path for 'salvation' in light of challenges and difficulties in its own right. The participant appears to suggest that technology's purpose should facilitate that community itself and that the community, along with faith, should remain as a principal source of support in the face of challenges. By mentioning the "physically corporate" side of things in his quote, the participant hints at a possible relegation of technology to align with organisational objectives of the Church, whilst possibly distancing it from the spiritual, although this is not entirely clear.

The participant then goes on to consider, however, how such mobile technology might be used by both lay and ordained members of the community to "*enrich, augment or facilitate an event of worship*", suggesting that he is open to the idea that such technology can, indeed, be used to facilitate spiritual engagement.

[**Q4.2**] - *"Because I'm assuming everyone will use it for their, you know, private purposes, their personal purposes routinely".*
[**ETs:** Individual and Community; Role of Clergy]

While it is not clear from this quote whether this represents a reference to spiritual practice, the participant hinted at a difference in behaviours amongst community members in terms of private practice compared to communal worship.

[**Q4.3**] - *"But, if you're talking about how it is used specifically in relation to shared worship, then, they're different, and that could be on a spectrum, couldn't it? At one end, the very routine business of projecting the words onto a screen, which is probably the most familiar form of technological intervention in many churches, right through to what we are exploring at the moment in terms of whole services being live-streamed or recorded and the various different strategies you might adopt for that".* [**ETs:** Individual and Community]

Here, the distinction between shared and private worship was made more explicitly. The participant drew on examples of existing shared use of technology within churches to facilitate worship. His statement, however, appears to be more in reference to the projection of lyrics and prayers onto a screen or the streaming and recording of services. At the time of the interview, the UK was in the midst of the COVID-19 pandemic, which served as a catalyst for broader consideration and reflection on how digital technologies could facilitate shared worship during periods of social distancing (Caddick 2020).

In order to refocus the interview on the use of mobile technology to support autistic children, the question was posed to the participant about the anticipated acceptance of a child by both the congregational members and clergy, using mobile technology in churches, although not necessarily confined to the purpose of accessibility.

> [**Q4.4**] - *"I'm not sure it's different in kind from the various other sorts of distractions that you might give children to keep them occupied during the service. And particularly children with very specific needs and very specific abilities and I think, hmmm, if it were just a matter of entertainment, or whatever, that clearly might raise a few eyebrows."*[**ETs:** Inclusivity; Digital v Analogue; Individual and Community]

The participant made reference to distraction tactics that are often used with children in churches, whether those children are autistic or not. The use of the word "*distraction*" hinted that he anticipated that mobile technology would only or mainly be used for the purpose of distraction, e.g. play behaviours. The more therapeutic or supportive applications were not featured in the exchange at this point. The purpose of distraction was seen as a way of facilitating presence in an indirect way, maybe by improving the tolerance of the child of that environment. This, perhaps, raises a question of whose purpose the mobile device would serve - that of the child or those around them. Given that distraction tactics such as toys and books are commonly used, there is an implied distinction between the analogue and the digital.

> [**Q4.5**] - "*But I think that, if people understand that it is a way of keeping children present, keeping them physically in with the*

rest of the congregation, rather than hiving them off to a Sunday
School or a playroom, or whatever, then there has to be something
to be said for it, isn't there?" [**ETs:** Inclusivity; Individual and
Community; Role of Clergy]

The purpose of mobile technology in supporting inclusion was touched
on again by the participant in this quote. The participant's choice of words
("*hiving them off*") could suggest a somewhat negative view of the practice
of separating children from the congregation for specific services or Sunday
School. In this context, the use of a mobile device was seen more positively,
with a view to facilitating communal worship, perhaps in contrast to other
statements within the interview. The participant suggested that there would
be a need for understanding of this from the congregation and an awareness
of the benefits.

Drawing on the interview held with the Eastern Orthodox participant
(see Chapter 5 - Q5.22), the (anonymised) anecdote of a paper-based book
v. digital (Kindle) book was put to the Anglican participant as an example
of how attitudes towards the analogue versus the digital can be different,
even if the purpose of use is the same. It was suggested that there was a
perceived "wholesomeness" to the traditional book in comparison with the
Kindle book.

[**Q4.6**] - "*Yes, that's true. But I'm not sure that it's at all reas-*
onable but it's certainly there, but I don't quite see what it rests
on." [**ETs:** Digital v. Analogue]

Although led by the anecdote, again, there was an acknowledgement of

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the distinction between the analogue and the digital, along with the participant's observation that the reasoning behind this is not always immediately apparent even when it is felt. The participant went on to suggest:

> [**Q4.7**] - "*I think that there may be a bit of anxiety about the fact that, when you are using a digital piece of technology of some kind, you do have choice and control. You know, you can flick around. You can go to different sites. Whereas, if there's a book, you know what people are doing.*" [**ETs:** Purpose of Use; Analogue v. Digital; Individual and Community]

Once again, the participant referred back to purpose, which is a strongly featured theme within the interview. The theme of purpose was strengthened by further consideration, with the participant stating that there is an element of choice and control with the digital that is not typically there with the analogue. The mobile device can represent a potential distraction in many different ways. It is of note that he mentioned that, with a book, it is typically possible for those around the individual to have some understanding of what the person is doing. Mobile devices, by the very virtue of their multi-functionality and discreetness, seem to represent more of an esoteric threat to the communal setting of the service, as there is a lack of awareness of the purpose of use for those around the user. With a book, a toy or a colouring-in book, there is a limit to the way a child might be distracted, and such distraction is visible and comprehendable to those around them.

> [**Q4.8**] - "*It's more contained, yes. And there may be some anxieties about that. How do you know that a child is not just playing video games.*" [**ETs:** Purpose of Use; Individual and Community]

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Following on from the participant's comment regarding the nature of use of the mobile device, the issue of rigidity of play behaviours that can often be a characteristic of autistic children was raised. Particular reference was made to play behaviours using the tablet, which may not conform with the community's expectations of appropriate use. Further, engagement with the surrounding environment by an autistic child may not visibly appear to others as might be expected. This may be, in part, due to behaviours that may not conform to social norms, such as an absence of eye contact or verbal communication. In response, the participant stated:

[**Q4.9**] - *"I would say, at the end of the day, it's important that they are physically there and that if the congregation is not, in some way making it possible for people with special needs of one kind and another to be present, then, any claim that a church is genuinely a universally welcoming place is going to be a bit thin."*
[**ETs:** Inclusivity; Individual and Community]

Here the participant points to the Christian ontological desire to be inclusive to all. There is, once again, an emphasis on shared, communal worship, of which the autistic child is an important part, completely and equally so in their own right. This belief was placed above any concerns that might have been held regarding what the child is or is not doing or how that might appear. There was a placement of responsibility, by the participant, onto the wider membership within the community to ensure that inclusivity.

[**Q4.10**] - *"And there's obviously, and I'm thinking of stories I know - families with children with autism and the difficulties they*

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have sometimes had in Church. There's a job to be done about
educating congregations about this. Saying, you know, if this child
is behaving oddly, or as you might see it, disruptively, then, you
know, they're not being naughty. This is a real issue. This is a
complicated condition and it's up to all of us to be aware of that."
[**ETs:** Inclusivity; Individual and Community; Role of Clergy]

The participant, again, emphasised the importance of raising awareness amongst the wider membership to ensure inclusion for all, including autistic children and their families. At this point in the conversation, the potential role of mobile technology in either facilitating or preventing true inclusion was almost overlooked in favour of an emphasis on the community and their behaviours. There was, perhaps, an assumption that an autistic child's behaviour might be evident, although, elsewhere in the interview, the participant shows an understanding of the spectrum of behaviours autistic children might display. There was no real reference to less obvious presentations of autism at this point in the interview, however.

[**Q4.11**] - *"To make the allowance. Not just to make allowances but somehow make welcome, too."* [**ETs:** Inclusivity; Theological Thought]

While the first part of this quote defaulted to an 'acceptance', this was immediately developed from a more superficial accommodation to a sincere welcome, in line with the premise of inclusive theology (*Imago Dei*) (see section 2.4.2).

Again, the issue of the various ways in which autistic children can present

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was discussed. Reference was made to the fact that in some children, they may not be evidently autistic in a visible way. Despite this, for such children, the mobile computing device could still represent an important tool. The participant was asked whether this might be problematic and what could be done to help improve the way in which such use might be perceived, with particular reference to visible signals. The participant then asked for clarification, and the idea of specific covers was put to him, with the purpose of sending a visible signal to others that the use of such devices is authorised.

[**Q4.12**] - *"That's an interesting idea. I think that's quite a good solution, in a way. It doesn't take away the need to educate people in the general business of welcoming, and sometimes, in this kind of context, welcoming may mean being willing to stand back."*
[**ETs:** Inclusivity; Role of Clergy; Individual and Community]

This suggestion of covers was acknowledged as being potentially helpful, but there was a quick re-emphasis by the participant on the need to educate and raise awareness and that the use of such covers would not negate this need. The broader implications of authorised use were not, apparently, of considerable significance at this point in the interview. The idea of parish-issued tablets was also put forward in the interview. These could mirror the way in which hymn and prayer books are given out, typically in the back of a church. The participant responded by widening the remit of such use to consider those with other conditions or needs, such as bipolar disorder.

When posed the question of whether wider use of mobile technology amongst the congregation would widen acceptance and, consequently, help with the acceptance of use for the purposes of inclusivity:

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[**Q4.13**] - *"Yes, I think it would. It would be interesting to see that through the lens of clergy who are more and more using tablets to say their daily morning and evening prayer, for example."* [**ETs:** Role of Clergy]

The participant suggested that there are many clergy members who are using tablets as part of their personal morning and evening prayer, which is traditionally said on a daily basis, and he gave consideration as to whether this will shape the acceptance of the use of such technology within the group worship that the clergy oversee and that they could facilitate.

[**Q4.14**] - *"I gave up on this a year or so ago and started using a tablet to say my Daily Office, which I had never done before."* [**ETs:** Role of Clergy; Digital v Analogue]

The use of the expression "*give up*" was interesting, as it suggested that the participant had felt a sense of apprehension about adopting the use of mobile technology as part of his own personal prayer and spiritual practice. There appeared to be a sense of conforming or that using mobile computing technology in this context had been 'held back' for as long as possible. Whether this suggests that he held an underlying concern about the use of the technology within spiritual practice or whether it was a concern based in traditionalism is not immediately apparent when this quote is examined in isolation. Within the wider context of the interview, however, there is not much to suggest that it is the former and that tradition is a more likely explanation.

[**Q4.15**] - *"And I would guess that a quite significant percentage*

of clergy do that. Maybe they should talk to their congregation about why they do that and how it works." [**ETs:** Role of Clergy]

The role of clergy in religious leadership and cultural practices was developed as an idea at this point. The participant suggested that there may be scope for the existing mobile-facilitated prayer practices of the clergy to be used to inspire an acceptance amongst the membership, either through demonstration or raising awareness.

When asked explicitly about what role the clergy would likely play in bringing about cultural change in terms of technology acceptance in such a capacity, he responded:

[**Q4.16**] - *"I think, as always in these instances, clergy need to model welcoming behaviour, don't they? They need to be upfront and visible in changing kinds of reactions. And it's sometimes... I don't know. I would guess that, in quite a lot of settings, there will be people that a cleric will know, either as a colleague, a parishioner or just a friend who will have someone in their family living with a, sort of, AS (autism spectrum) condition. Maybe invite them to talk about it to people?"* [ETs: Role of Clergy, Inclusivity, Individual and Community]

At this point, the participant suggested that the personal experiences of the clergy, or even congregation members, may help inspire change. Clergy were expected, by the participant, to set the tone and model certain behaviours, again hinting that clergy will be instrumental in shaping cultural changes and practice. The participant suggested that education can come

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from autistic people and their families and went on to talk about a friend, a parish priest in Wales, whose first son is "*very severely autistic*". He spoke of his friend's commitment to raising awareness.

[**Q4.17**] - *"And, you know, he's not the only one who might - his experience can be drawn on. And it doesn't have to be just clerics whose experience can be drawn on, here. I'm just thinking aloud about how clergy could say, well, 'You know, maybe this Lent, we're going to have a couple of visitors who are going to talk about living with challenges that the Church needs to be aware of.' And, also, living with some of the solutions that you've been talking about. Well, not solutions, but, you know, the vehicles you might use to keep people involved."* [**ETs:** Inclusivity, Role of Clergy]

Although the participant initially used the term 'solutions' (in reference to therapeutic and support applications of mobile technology), he also hinted at a broader view of the use of technology in this context, potentially as a facilitator of inclusion.

The participant was asked, to what extent he anticipated that there would be variations at a local or parish level in terms of attitudes towards the use of technology and whether this varies much.

[**Q4.18**] - *"I think that there is probably some, and I'm not sure it would map very easily on to theological positions, but much more on to demography and social patterns. So, I would guess that an ageing congregation in a small rural church would just find it that*

much harder". [**ETs:** Individual and Community; Theological Thought]

Cultural variations amongst parishes can result in different attitudes to the use of technology within religious settings. The participant indicated that he did not feel that it is likely that theology shapes attitudes towards technology at a membership or congregational level to a significant extent. Even if theological factors are at play, there appeared to be a question as to what extent are these conscious considerations. In other words, it could make a difference, but it is not clear that these issues would have been sufficiently subject to conscious consideration. The participant suggested that the demographics of the congregation were far more likely to be determinant factors.

[**Q4.19**] - *"But I'd also be interested to know how people would react in a very noisy, hyperactive church with lots going on and how they would cope with someone who wouldn't engage in the way that they would be comfortable with. You know, when everyone else is singing loudly and waving their arms, what does the non-standard person do, then? And is the congregation actually willing to think about that."* [**ETs:** Individual and Community; Inclusivity]

The participant indicated that he is aware of the fact that churches for autistic children can be challenging environments, particularly from a sensory perspective. He suggested that some church environments, for example, some charismatic churches, could actually be more difficult with more unpredictable liturgy.

Moving the conversation on, a reference was made in the discussion to the study by Hills, Clapton et al. (2019), where the experiences of autistic adults, unable to communicate by voice, described their faith in a sensory manner, making reference to natural phenomena such as the sunlight and the wind (ibid.). The participants in the study thanked the researchers for providing an opportunity for them to talk about their experiences, which were often overlooked.

[**Q4.20**] - *"Yeah, that's important, I think... there's... Autistic people really struggle with sensory overload, don't they? And, sensory overload becomes emotional overload and that [..] begin to quiver. So, yes... I wouldn't, I suppose, recommend that a family with a child living with autism go to some churches because sensory overload is what they're all about and so you might want to say, 'fine, but, this is going to feel risky in the wrong ways and is not going to be easily controllable for a child,' and if electronic devices are part of how you... you maintain a person's sense of control (that) they need of their environment and obviously, you know, there are positive things there. And that need for..., well, you know this, control of the environment is part of that condition. Not in any malign way but you need to know that you are screening what you can cope with."* [**ETs:** Inclusivity; Individual and Community]

There was an important recognition here of how electronic devices can help support the autistic child exercise some sense of control over their environment and response to it. Autistic children may use technology as a

sensory-coping tool, and mobile devices can be used to help screen what can be coped with. Here, the participant demonstrated an appreciation that the mobile device may not just be about being engrossed with a favourite toy as a distraction.

The participant was then asked how he thought autistic individuals connect to their religion via digital means, particularly online forums, which are used by some autistic members of the Christian community, as outlined in Bustion (2017) (see section 2.5.3) is received:

[**Q4.21**] - *"It's certainly been interesting to watch it over the last few months and pick up the debates people are having about the effects of online worship. I think a lot of people, myself included, have been quite surprised about how, how positive the experience have been in some ways and by how it actually gives some people, by permission, to be involved a little bit more than they might otherwise be. I mean, physically, people who can't get out or people who have other problems... I'm thinking also about people who have psychological issues for whom, the pressures of just being with other people in an unfamiliar group are just very heavy."*
[**ETs:** Inclusivity; Digital v. Analogue]

This comment pointed towards a wider dialogue within the Church about the possible role of technology in Christian society in a post-pandemic world. There appeared to be consideration about how that can facilitate and improve the inclusion of others, including those with physical or mental health conditions, and not just those with autism spectrum disorders. The COVID-19 pandemic has brought about a need for technology-facilitated inclusion

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for nearly *everyone* in many aspects of life, including religion.

[**Q4.22**] - *"I've heard from a couple of those saying, 'well, actually, yes, this is a bit more manageable.' And, for some people, that little extra dimension of distance does make it feel safer and I would want to weigh that very seriously that, there are then people who say, well, 'yes, but this is all a very poor substitute for the real thing.' And, one of the wisest things I've come across there is somebody who said, 'actually, when you are relating to somebody digitally, you'd only be relating to them, um, really virtually if you were present as an avatar,' you know? "* [**ETs:** Digital v. Analogue, Inclusivity]

While making reference to online delivery of services, here, the participant suggested that a diverse range of views exist regarding the use of technology in such a capacity and that, in the minds of some, that interaction is somehow less real or authentic and if it represents true Communion (Caddick 2020) (see section 2.6.1). The participant's comments suggest, however, that such discussion and dialogue is worthy of careful consideration if it can widen participation.

[**Q4.23**] - *"But, what people actually see is you, it is you in your physical particularity. It's not as if it is some kind of, um, phantasm. And I thought that was very shrewd. It's, you know, a real context. It's not perhaps the ideal level you would want it to be at, it's not the context you'd choose, but it's not nothing and it's not any more artificial than speaking on the telephone. It's not any*

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*more artificial than a good many of the engagements that we have
face-to-face, frankly. So…"* [**ETs:** Digital v Analogue; Individual
and Community]

Here, the participant continued his focus on a seemingly contradictory
way in which digital technology can be viewed, both positively and negat-
ively, when compared with analogue technology or more traditional forms
of technology. While he acknowledges this, it is clear that the reasons for
this are not immediately understood. There was also the acknowledgement
that the digital cannot necessarily entirely replace the physical gathering of
people in the same space and it would not be desirable for it to do so.

[**Q4.24**] - *"Uhum. Yes. I'm thinking of the experience of, um,
the live streaming of the Mass at out local parish here in Cam-
bridge, which I've been involved with most weeks for the three
or four weeks. I do find it strange preaching online. But, yeah.
That's just a fact. But, in many other ways, I can, I can see that
people are concentrating and involved and attentive, and the post
liturgical conversation and discussion, I can see that it is bring-
ing people out and letting them speak in some new ways."* [**ETs:**
Digital v. Analogue; Inclusivity]

The participant expressed his feelings about his personal experience of
contributing to the leading of worship in an online environment. He noted
that members of the Church are finding new ways to express themselves and
that, perhaps through the medium of technology, are more comfortable about
engaging in that expression.

The participant was then asked if he thought that people felt that the use of technology might be perceived as a spiritual barrier at all or if it somehow dulled the administration of a sacrament:

[**Q4.25**] - *"Yes, I think a good deal of that is sheer unfamiliarity. I would guess that of the people who are now regularly using Zoom for conversations like this, um, anything between 70-80% have never done it before."* [**ETs:** Digital v. Analogue]

The participant did not particularly focus on the theological aspect of this question but, instead, noted that the novelty of mobile and digital technology here is identified by the participant as the source of such potential concerns. The COVID-19 pandemic represented a significant shift in the use of technologies such as mobile computing devices, not just in churches but more broadly in society. The imperative to change behaviours has been out of necessity in many cases rather than choice.

[**Q4.26**] - *"And, they've had to get used to it. But, again, I'd say that of myself. Yeah... so, unfamiliarity is part of it, but I think it feeds into a wider kind of anxiety about...you know... too many technological solutions and a feeling in a Church that is already getting rather slick and managerial. In respects, this is just another nail in the coffin of good, old-fashioned religion."* [**ETs:** Individual and Community; Digital v. Analogue]

It is not clear in this quote if the participant was expressing the view that the use of technology represents a move away from religion in a spiritual or

theological sense or is, more simply, disruptive of tradition. The latter seems most likely when he goes on to talk about the view of it becoming more *"slick and managerial"*.

> [**Q4.27**] - *"I sort of see what that's about, but I think it's also a rather unreal reaction. You'll find a bit of that online with some people's blogs and so forth, '"well, this is just the thin edge of the wedge, where we're moving to a cultural context where people's bodily presence and bodily identity is no longer important.' But, as I said before, I think that's a bit of a misrepresentation."* [**ETs:** Individual and Community]

The parallels between the Universities and the Church are put forward to the participant as an example where, during the COVID-19 pandemic, there has been an emphasis on the *people* representing the institution, rather than the buildings.

> [**Q4.28**] - *"Yes, and I have been rather struck by talking to undergraduates who have missed out on their physical last term here, and so [..] they really have found other ways of relating. They've kept in touch. They've done their work and, judging from the exam results, which we've been getting in in the last week or so, they've really done rather well. So, actually, the end of the world has been postponed again. [laugh]"* [**ETs:** Individual and Community, Digital v Community]

The participant was asked if he felt if there was anything that technologists could do to reduce anxiety about the use of mobile technology from

a religious perspective. He was asked if there something that technologists could do to make the use of such technology within religious contexts more palatable.

> [**Q4.29**] - *"Hmm. I don't know. I think I'd need to know more about technological possibilities to give an intelligent answer to that. People will miss, for example, singing together. And there are some things that can be done to make that a bit more possible, but, um, actually, there are some real limits to what you can achieve, and you need to budget for that and find other things that are valuable and other things that are worth working at."*
> [**ETs:** Individual and Community]

The participant did touch on the important issue of finances. It is of note that churches are typically charitable organisations that rely, in large part on voluntary donations from membership, along with income from fees for weddings and funerals. While mobile technology represents a relatively affordable technological solution to providing assistance and support to autistic children, for some churches, purchasing a number of devices could represent an unfeasible financial outlay.

In an attempt to bring the conversation around to more theological or philosophical implications around the creation (software engineering) and use of such technology, the participant was presented with a quote by Bishop Kallistos Ware, *"Our human task as craftsmen or manufacturers is to discern this logos dwelling in each thing and to render it manifest; we seek not to dominated, but to co-operate."* (Ware 1979, Loc 479). The participant was asked if there was any relevance to such a quote here.

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[**Q4.30**] - *"Ah! Fantastic! But it goes back to this question of purpose, doesn't it? Taking Kallistos' remark about 'Logos' seriously... if what you are doing in any kind of craft or creative activity is looking for the 'Logos' element is not just something self-contained, it's something that flows into the life of other things and makes everything more itself by connecting, by Communion. So, I guess, if you're trying to apply what Kallistos is saying in this context, you'd want to say, 'So how does any kind of technology actually facilitate real Communion between people and how does it facilitate a just and constructive attitude to the rest of the physical environment,' and so on. So, you know, you could look at the whole question of technological solutions in the environmental movement. It's not that technology is the enemy; it's just that you have to discover a technology that works for, not against ecological balance. And, you know, occasionally, I think, the wind farm is not a bad example of that. So, that would be one example of how you can apply that idea of what human craftsmanship is like to the technological world... in this context."* [**ETs:** Theological Thought; Purpose of Use]

The participant was asked if this was about intent, as well as purpose.

[**Q4.31**] - *"Intent, yes and that intent being about connection. Connection... and [plurality?] and everybody being able to give and receive... all of that sort of thing. Basic theology of the Body of Christ."* [**ETs:** Theological Thought]

This part of the interview seemed to be of particular significance. Ori-

ginally, the quote was posed with the broad intention to probe the views of the participant around the software engineering process and production of mobile technology in this capacity, the participant, however, focused on the concept of Logos, revealing a sense that purpose is not just superficial but has deep meaning in this context. It is perhaps of note at this point that he used the example of the wind farm, which draws parallels with those views of Heidegger and the windmill as an example of a benevolent technology (Coeckelbergh 2020). It is evident from this comment that the idea of purpose goes beyond the superficial. Here, the participant drew parallels between ecology and the community of the Church. He goes so far as to bring in the theology of the Logos (the Word) and the body of Christ, suggesting that the theme of the purpose of use of the mobile technology can be applied on theological, philosophical, cultural and individual levels.

The participant was then asked, the autistic child playing an online game such as Roblox in the church, even if it facilitated their presence, whether that use could be perceived as going against the facilitation of Communion amongst the people in its true sense.

[**Q4.32**] - *"Not necessarily, um... I think facilitating the sheer presence of somebody and enabling to make them feel, in some degree, welcome has to be a positive and, frankly, lots of people are playing video games inside their heads when they are in Church, anyway [laugh]. It's not as if this is entirely unique!"* [**ETs:** Inclusivity; Individual and Community]

He noted that it is possible for any member of the Church to become distracted, with or without digital means. Facilitating the presence of an

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autistic child in the Church is clearly important and the participant made reference to this again. In this statement, again, he suggested that he possibly viewed the use of mobile technology as a facilitator of tolerance and engagement more than a tool to facilitate spiritual presence and practice within the context of the service.

[**Q4.33**] - *"...what it does is... to say, well, 'here you are. We are going to take you... we are going to start where you are and if starting where you are involves this, we'll do that. Um, where we might get to? Well, who knows?' Um... and... again, as you know, there are ways of involving people with different kinds of conditions on the spectrum. Um, there are, very slowly refin[..] techniques that help with this. Don't rush it. Don't rush it. Just make the person welcome."* [**ETs:** Inclusivity]

The participant made reference to mobile technology as facilitating the physical presence of an autistic child within the Church. By using language such as "*start with and where we might get to*", there is a subliminal suggestion that there could be an expectation to move away from the use of the mobile technology or to improve the presence spiritually of the autistic child, when that might not be required.

In order to illustrate the point that an autistic child may appear distracted and disengaged, an anecdote was shared with the participant about a young autistic boy asking to go for Holy Communion. As the child was in a different denomination, the parent told the child that they would need to ask permission first. The child became distressed and exclaimed, "The Church is making me worthless!" This highlighted to the parents that, although the

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autistic child seemed distracted and disengaged, he was keen to participate and had some understanding of the importance of Holy Communion.

> [**Q4.34**] - *"Yep... And, there again, that puts quite a bit of responsibility on clergy and others to let congregations know what's happening there and... what the stakes are for a person with intelligence and feelings... who maybe...hurt by assumptions and reactions."* [**ETs:** Role of Clergy; Individual and Community]

Here, the participant put the onus on the clergy to facilitate a greater awareness amongst the congregation. Education and awareness were once again highlighted as being an important, if not a key part in bringing about cultural change in terms of inclusivity and technology acceptance.

> [**Q4.35**] - *"Again, just a rather marked example of what is true with an awful lot of children in Church. You can't register quite what they take in until something comes out which, either very positively or very negatively, actually I've been listening. I've been processing this and you haven't noticed."* [**ETs:** Inclusivity]

While the Church is a theological entity, there is also a human reality – with social groups, each with their own nuanced cultures and beliefs.

> [**Q4.36**] - *"Absolutely, yes."* [ETs: Individual and Community]

The participant was then asked about tolerance to change in church culture, particularly referring to spiritual practices. He was asked if he had any

views on how open or hesitant people might be to such, particularly when introducing mobile technology use within a spiritual context.

> [**Q4.37**] - *"The thing is, we often don't know how much technology we are already using."* [**ETs:** Individual and Community]

This comment, although brief, reinforced the participant's earlier view of the novelty of digital technology being problematic.

> [**Q4.38**] - *"Um, people access spiritual talks on the internet, people, of course, don't realise it but when they pick up a book, they're using technology. The fruits of technology. And it's the same question, I think, that has to be applied across the board. Of course, we are always using technology or its results. The question is, is it familiar or unfamiliar and what's it being used for. So, yes.. there is a fastidiousness. People feeling reluctant because, yeah... its not, as you put it, it's not so wholesome as reading books. And, you know, I struggle with my own prejudices about that because I assume, deep down, but I know it's not good enough to assume that. Um, yeah. Sometimes it is just a matter of saying to people, 'Look, as a matter of fact, you are already depending on this in some ways.'* [**ETs:** Digital v. Analogue; Individual and Community]

The question was posed about whether novelty plays a part, to which the participant responded that it did and that it was the Church's responsibility to say, "*don't panic!*" This suggested once again that the participant believed that the Church, organisationally, carried significant responsibility.

When asked if clergy would be a big driver in cultural change:

[**Q4.39**] - *"I think they have to be, don't they? Um... obviously, there are...there are other routes by which people can be made aware. I'm th... I'm asking myself whether, um, church schools can be encouraged to think about this."* [**ETs:** Role of Clergy; Individual and Community]

He was asked to elaborate on what his thoughts on church schools were.

[**Q4.40**] - *"Well, simply because that's a context where some relation to the worshipping life for the congregation is in the background. You can sometimes get across a lot of messages to parents and families by the messages you get across in the context of the school. And, if, you know, clergy and teachers were thinking of this as a real question which needed addressing... I don't know. That's just a thought, but I do believe that church schools can be a driver of positive change in some ways and maybe this is an area where this can be explored a little bit more."* [**ETs:** Role of Clergy]

The participant was then asked to what extent the fact that messages from senior clerics, such as an Archbishop, would play in bringing about a cultural change at the parish level.

[**Q4.41**] - *"It's more likely to be within parishes, really. After, [redacted] years as Archbishop, I felt completely confident that nobody listened to a word I said [laugh]."* [**ETs:** Role of Clergy]

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Although this was said with some humour, this suggested that the participant felt that there were some limits to his authority within the context of leading a diverse community. This was further confirmation that the principal source of change or determinant of cultural acceptance would come from the clergy on the ground more than leaders or the episcopate.

> [**Q4.42**] - *"It's just such a very interesting subject. I hadn't made the connections you've drawn out and it's really fascinating to think them through a bit."*

4.1   Researcher's Reflection

As with each of the interviews conducted as part of this research, I greatly enjoyed interviewing the participant and gaining insight into his thoughts on this matter. It did feel, at times, a little intimidating due to my personal inexperience, and I realised that I would need to be more clear in my questions in order to gain deeper insight, particularly into the theological and philosophical aspects of the topic. This is not, however, a theological project, and I am not qualified to provide critical reflection to any significant depth on that front. Indeed, the participant's answers reflected the emergent understanding from this study that it is culture that seems to play the most significant role in influencing the acceptance of technology use, more than theology is likely to do so. The participant provided fascinating organisational insight into the Church that highlighted the potential role of clergy in bringing about change, along with potential congregational attitudes.

Chapter 5

Results: The Eastern Orthodox Church

For details on the presentation of results, please refer to Section 3.11.6 of the Methodology on page 156.

The interview began with the participant volunteering views on the presence and acceptance of autistic children in an Eastern Orthodox Church in the UK. He acknowledged that, within traditional contexts, that "*cultural baggage*" can play a role in shaping acceptance. He went on to mention the issue of stigma:

> [**Q5.1**] - *"You are almost embarrassed to take your child outside because people view your child and you as being different. And being different is not always objective. It's a subjective interpretation, and, in this case, it doesn't mean the most positive. You have, in parallel situations, children with Down Syndrome. I lived*

in [another country]. Rarely would you see a family [..] it was an embarrassing situation." [**ETs:** Individual and Community; Inclusivity]

The participant identified issues around the stigma that can be associated with children with differences or disabilities, particularly within some traditional contexts. He recalled his cultural experiences while he was serving abroad, drawing parallels between autism and Down Syndrome.

The participant then went on to put this within the context of the ethnoreligious aspect of the Orthodox Church in the UK, showing that, while he acknowledged the importance of the cultural aspect of the Church over which he has oversight, he intended for technology to be used to their advantage:

[**Q5.2**] - *"So, there is this old world mentality that I don't want people to see my problems, my situations. I don't want them to pity me or my child. But we are part of a growing and developing ethno-religious-cultural society, in which we are going to use technology to our benefit."* [**ETs:** Individual and Community]

While he gave the impression of recognising the importance of the cultural links that the Orthodox Church in the UK provides to the community, he gave the impression that he was open to change, including through the use of technology. He went on to say:

[**Q5.3**] - *"And I think that is going to come also, in this case, when we can use technology to assist young people and ourselves in dealing with the issues. Personally, I am opposed to the use of*

phones, mobiles, iPads in the church except in such cases. As the
person who has other skills, abilities and knowledge will go to his
or her email, check on other things and temptation enters and,
you know, the innocent child...you know, that may be the only way
to keep this child comfortable, uh. I hate to use the word non-
violent." [**ETs:** Purpose of Use; Inclusivity; Theological Thought]

The participant, whilst open to the use of mobile technology in some cases,
revealed he would not be keen on general use amongst the population of the
Church. He stated that he was keen to see it be available to children who may
depend on it and that he would welcome it in such circumstances, but for
others, it was viewed as a potential distraction. In this case, the participant
apparently referred to mobile technology in terms of it being a distraction
but also as a means to facilitate the presence and help the behaviour of the
autistic child. It is of note that he used the word "*temptation*", although
it is not entirely clear if he meant it in the religious sense or whether this
would simply be a distraction from the important events of the Liturgy. The
suggestion that temptation "*enters*" may hint at an underlying theological
thought regarding this, although this was not clear.

The use of the term "*innocent child*" was also of note here, as the parti-
cipant ascribed the characteristic of innocence to the autistic child. Macaskill
(2019) noted that there is a tendency, in some religious contexts, to view chil-
dren with autism as being almost 'sinless' or 'angelic'. There was little to
suggest that the participant viewed autistic children in this way, and it is
more likely that he was making reference to the type of activities or distrac-
tions the child might engage with. It was not clear whether the participant
was motivated to do so because of the autistic child's youth, perceived diffi-

culties or because of the intention and purpose behind the use of the mobile device itself.

[**Q5.4**] - "*And also comfortable and secure. OK? Because children that have autism react in different ways. And they may react, not only to the physical space and the people there, especially when someone comes who wants to touch them, OK, and disturb their space, to the music, the singing, the language and other things*". [**ETs:** Inclusivity]

The participant showed that he had an understanding of some of the challenges that an autistic child may experience within the context of Liturgy and the church environment. He also set his comments about autistic children and their experiences within the context of the wider community while acknowledging the challenges that can present for them.

[**Q5.5**] - "*So, I see it as the development of technology as a God-given tool and it is for the child and it is also for the family and the parent, especially the mother, because a child, you know, has a different bond with the mother. The mother is also comfortable and relaxed because the child sits still. And parents don't have to worry so much. So I have no problem... There was a child in church, in one of the parishes here, who started crying and screaming. And of course, the older generation, 'Shh, take the child out' in [ethnic langauge]. I stopped the service and I told the mother, 'Don't dare take the child out of the church!' The first memory of the child must not be of being evicted from the*

church, the child must remember that he or she is wanted.'' [ETs: Inclusivity; Theological Thought; Individual and Community]

In this part of the interview, the participant framed the mobile technology as a "*God-given tool*", specifically with the purpose of assisting autistic children and their families, especially the mothers with whom he regards the children as having a specific type of bond. It was of significance that he noted that the use of mobile technology could, by extension, also help families (in this case, the mother) by creating a more relaxed atmosphere. This was quickly interjected, however, by an account of how others in the congregation might respond, particularly the older generation, who may have expectations of behaviour within the church. The seemingly disruptive behaviour of the autistic child was illustrated by the participant as a potential distraction for others within the community. The participant re-emphasised the importance of true inclusivity, however, which is framed by the Christian ontology of inclusion (see section 2.5.1).

[**Q5.6**] - *And I think these devices can give us the ability to build a bridge of inclusion. But, there's a process of education now. Because the older generation have a little flip phone, for those who have them and the younger generation, his or her life is entirely on this and nothing else. Because here I have not only my phone, my addresses, my emails, my bank information, my credit card, this, that, you know.... it is the resource we use for everything, so it also needs to be the resource that allows us to build bridges and build relationships*". [**ETs:** Individual and Community; Inclusivity; Purpose of Use; Role of Clergy]

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The participant stated explicitly that he sees mobile computing techno-
logy as an opportunity to "*build a bridge of inclusion*" and to "*build rela-
tionships*", but this was with the caveat of a need for education to raise
awareness, particularly amongst the older generation, who may hold tradi-
tional views about expectations of behaviour within the church. In raising
the two different types of mobile phones (the flip-phone and the smartphone),
the participant appeared to justify the need for education amongst the older
members, but also about the different ways in which mobile technology is
engaged with and for what purposes. He suggested that there is a genera-
tional divide between younger and older members of the Church, who relate
to mobile technology in different ways, with older people using it primarily
as a verbal communication device and younger people using it as a tool for
engagement in everyday life. While these were points of generalisation, it
was implied by the participant that these were understood as such.

Based on his comments and in a bid to clarify his stance, it was suggested
to the participant that it was not that mobile technology was inherently the
problem but that it was its capacity for misuse. Conversely, with the right
intent, it could be used to help build relationships:

> [**Q5.7**] - *"People will say 'you know, money is a sin'. It's incor-*
> *rect. The real expression is, 'avarice is a sin' - the love of money.*
> *So we have to be sure that we understand things in the setting and*
> *in the [..] Same thing again with technology. It's how you use it.*
> *Technology and an obsession for it. For a parent to become ir-*
> *responsible is a sin. For a parent to use technology to build that*
> *bridge and relationship with the child. The child, he or she, when*
> *the child goes home may want to watch the church service again if*

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the singing was really good. You know, that may be a comforting thing. [**ETs:** Purpose of Use; Theological Thought; Inclusivity]

There was a considerable emphasis placed on the purpose of use of the mobile technology again here. The participant, drawing on avarice as an example, argued that it is not that mobile technology has inherent characteristics of good or evil but that it is a human dependency on the use of such technology, particularly in terms of addictive behaviour that could be regarded as a sin. The participant placed some level of responsibility on to the parents to ensure that the use was appropriate and moderated. He also indicated that, where it was used to establish a relationship with a child or to engage with the Church, then this would be an appropriate use. He went so far as to suggest that the mobile device could assist the child in participating in religious practice and taking an interest in the Church.

The participant went on to share a personal anecdote about an autistic child he knows who will only receive Communion from him because they are familiar with him, demonstrating that he is aware of some of the needs around routine and familiarity that can be experienced by some autistic children (McConachie, Le Couteur and Honey 2005).

The participant was then asked if the actual presence of the autistic child was key. He was also asked whether the child engaging in something on the mobile device that may not be directly linked to the Liturgy, for example, a favourite game that might be facilitating their presence, would be acceptable or problematic.

[**Q5.8**] - *"[We don't always know] how God's grace works. We are thinking other things. God's Grace may be doing other things.*

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There are instances in the history of the Church. They are called the Fools for Christ's Sake. People thought that they were nuts. One would drag a dead dog along with him. And they became Saints of the Church. So we don't know how God's Grace touches the hearts of people and we don't know how God's Grace will touch this child and this human being. You know, there are people who are autistic and can play the piano. Never having studied and they can't read music. They hear the melody and then they play it. Well, obviously there is something going on in there that we can't comprehend. So in that mind and in that heart of the child, there may be an active Grace of God. [..] Grace is working in a different way. When you think 'Church' you can't think of logic all the time. You have to think outside the box of logic." [**ETs:** Theology, Purpose; Inclusivity]

The participant answered with the statement that "*God's Grace*" may sometimes operate in ways that are beyond human comprehension. Again, he demonstrated an anecdotal understanding of autism and drew parallels with the learning of the piano. The participant appeared to draw parallels between the sometimes seemingly esoteric nature of the inner mind of some autistic children and the unknowable manner of God's Grace. Regardless, this open mindset to such possibilities appears to be a potential source of motivation for the acceptance of mobile technology use in such a capacity.

This was the only point during the data collection where the idea that playing behaviours on a mobile device might not be contrary to spiritual engagement.

The participant was then asked whether he had earlier mentioned that he felt that mobile technology use in the church, more broadly, should be discouraged due to its potential to be a point of distraction. He was also asked if he felt whether there was anything that could be done to make it more acceptable.

> [**Q5.9**] - *"Well, of course, because technology helps us also produce the videos or clips or cartoons or bible stories, which young children, whether they have autism or not, tend to like. This idea of having one old man chant and wail to me, is unacceptable. But if you have some nice choir and the child just tries to sing along and it makes no sense, no sounds that fit in or anything like that, that's fine with me, because that's his or her participation and again that's part of technology. But technology [..] other things are done. There are some parishes in the United States, where they have these huge screens on two sides, like, looking forward, and they have the hymns with music and they ask people to sing along. We are organising that here, we are going to have an English liturgy. It's going to be a sing along Liturgy with a congregation. All English. Let me just add, as you asked about technology."* [**ETs:** Inclusivity; Purpose of Use; Individual and Community]

The participant showed that he is content with the idea of modern features being incorporated into traditional church environments. He drew on the example of Eastern Orthodox parish churches in the United States using projection technology to display the words for hymns and music, to encourage people to sing along. He indicated that he intended to incorporate such

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technology in the UK Orthodox churches, over both of which he has had jurisdiction. What is important to note is that the participant emphasised that he intended to incorporate English language. This suggested that he was open to the idea of bringing about cultural change, which is of particular note given the Eastern Orthodox Church in the UK is an ethnocultural religious organisation, where adherence to tradition is often strongly desired. The example used to illustrate this point was one of technology facilitating common worship, rather than individual practice.

[**Q5.10**] - *"If your child doesn't want to go to church or you are unable to take your child and the child says, 'Isn't today, Church?', 'Well, let me put it on for you. You can watch it from here, even.' You see? Technology is the resource for the child participating in [..]."* [**ETs:** Purpose of Use; Inclusivity]

In a bid to turn the focus of the conversation towards software engineering processes and manufacturing behind mobile computing technology, particularly with the purpose of supporting autistic children, the quote by Bishop Kallistos Ware: "Our human task as craftsmen or manufacturers is to discern this logos dwelling in each thing and to render it manifest; we seek not to dominate but to co-operate" (Ware 1979, Loc 479).

[**Q5.11**] - *"Exactly, we just published a resource of things for parents and children so that they can use the rest of the summer. Some of them are links for the Archdiocese in America. They have a whole technology department. And I'll put them in touch with you later. I'll also send you a list of books, cartoons, things like that the children can use."* [**ETs:** Inclusivity]

The participant did not particularly respond to the quote and moved the conversation back to examples of supportive measures made by the Church for the inclusion of children via technology. When thanked:

[**Q5.12**] - *"That's the purpose of the Church is to help people and to do things with and for people. It's not being angry with people."*
[**ETs:** Individual and Community; Role of Clergy]

In saying this, the participant touched on possible public perceptions and/or misconceptions of the purpose of the Church, where it may be seen as authoritarian.

The participant was then asked, within the context of the parishes over which he has jurisdiction, to what extent the use of mobile technology would be accepted by the clergy.

[**Q5.13**] - *"Well, I think they are learning to deal with it because we have clergy Zoom meetings. So they're learning. It's quite important because we are talking about challenges, issues, problems and I do work with human trafficking and modern slavery, so we are going to host a programme on healing and the arts. Or arts and the healing. And so, I think this also fits in with autism. How can we use the arts through technology? You know, children can finger paint on the screen now. So, we're using technology for something the child likes and [...] education. So, I thought I would toss that in."* [**ETs:** Role of Clergy]

In this instance, the answer was brief and the issue felt somewhat glossed over. The participant, however, suggested that there is a sense of expectation

that the clergy will need to adapt and were already doing so through the use of Zoom meetings. The challenging issues that the community are keen to address, in this case, human trafficking and modern slavery, were given as a motivation to adopt the use of technology, particularly during the COVID-19 pandemic.

The participant was then asked to what extent he felt that the authority of a senior figure within the Orthodox Church, such as Patriarch Bartholomew, who, at the time of writing, is the 270th and current Archbishop of Constantinople and the Ecumenical Patriarch (Greek Orthodox Archdiocese of America 2021), would shape acceptance amongst the congregations.

[**Q5.14**] - *"I hate to use the expression. Here, 'I'm the boss'. And the directives, I think are going to flow from me. And I've had, you know, some people who have kicked back, for example, in some parishes here. I've insisted, the Epistle, the Gospel, the Creed, the Lord's Prayer be bilingual and they didn't want to use English. I said, you know, 'We're living in England. When you go to the bank, you somehow communicate there, so we're going to start…'. I said, 'your children need to understand what we believe. We're not going to Cultural Orthodox.'"* [**ETs:** Role of Clergy; Individual and Community]

It appeared, from his response, that he felt the role of the Patriarch was not of significance in the context of shaping acceptance amongst the membership within the UK. Indeed, compared to the other interviews, there was a greater focus on the authority of the participant in terms of determining what would happen at a parish level. The Archbishop's answer suggested

that, by introducing more English into the Liturgy, he is perhaps keen on addressing cultural dependencies and traditions with a view to widening access where theological beliefs do not prevent him from doing so. His use of the term "Cultural Orthodox" was in reference to the strong link between the Orthodox Church in the UK and the relevant ethnic communities who live there.

When asked to further clarify on the membership's dependency on the Church for cultural links:

> [**Q5.15**] - *"If the language in the Liturgy were the spoken in contemporary [ethnic language], I have no problem, but it's not. It's a higher, older form. I've asked people afterwards, 'which epistle reading did we have and what did it mean? What did he have to say?' Couldn't answer."*[**ETs:** Individual and Community; Role of Clergy]

The participant went on to suggest that this raised important questions in terms of inclusivity, not specifically in reference to autistic children, but everybody for whom the exclusive use of the ethnic language could represent a barrier. In challenging the culture around the use of dialect and language, he wanted to ensure that the teachings of the Church were preserved and understood.

While not directly relevant to the issue of technology acceptance, this comment is further evidence of the participant's willingness to change the culture within the Church where resistance might be met. This could impact the acceptance of technology. Traditional mindsets, which can often be stronger in the diaspora, may impact mobile technology acceptance.

The participant was then asked whether the scenario of an autistic child using a tablet in the church would benefit from having visual clues as to why that tablet might be needed in terms of helping acceptance of that technology by the congregation.

[**Q5.16**] - *"I don't think it's, first of all, the business of the congregation. OK? And I don't have problems with any child using a tablet or whatever, as long, of course, as there's no sound so it becomes*[..]*"* [**ETs:** Inclusivity; Individual and Community]

He was asked what he meant by his comment that the Orthodox community was sometimes reluctant to change, particularly here in the UK and if he had an explanation for this.

[**Q5.17**] - *"People see the Church outside of the [ethnic] world as the means of keeping the ethnocultural identity. So they blend culture, ethnicity and religion in to one pot. And, I quote a friend of mine who said, 'we are often cultural about our religion and religious about our culture.' [..] without that depth of knowledge and I think that people think that the walls come tumbling down. You know, the [ethnic group] refer to anyone who is non-[ethnic group] as... foreigner. Stranger. And I always tell people in the House of God, 'there are no stranger.' And the Church is not [ethnic description]. It's an Orthodox Church.* [**ETs:** Individual and Community; Role of Clergy]

Here, the participant highlighted the unique characteristic of the Eastern Orthodox Churches in the UK as ethnocultural organisations, as well as a

religious community, where those who are of a relevant ethnic decent see the Church as an important cultural link and guardian of heritage. The participant drew the comparison with his experiences of working with the diaspora in the United States. He highlighted that the culture and language that was being preserved in the community around the church is somewhat different to that which might be encountered in other countries, e.g. Russia, Greece or Cyprus.

> [**Q5.18**] - *"So, I was raised speaking a dialect of [ethnic language], because of my grandmother. And the dialect is slowly vanishing. But, on the other hand, I also speak very good, proper, Modern [ethnic language]. In fact, when I am in conversation with congregation members and they throw in an English word, I correct it for them. That's just to, give it to them. So, you know, the language becomes part of the wall to protect. And not in the bad sense."* [**ETs:** Individual and Community]

He went on to suggest that language was an important defence mechanism for some that helped preserve cultural heritage for the community, hence a reluctance to introduce English.

The issue of individual worship in the church and disruption from others was put forward. The participant was asked if there was some way of raising awareness of mobile technology use in this capacity and how the benefits can reach beyond that of the individual user?

> [**Q5.19**] - *"Well, so the priest needs to bring it to the attention of the congregation and enlighten them. And, also, this form of*

technology or whatever you are using isn't only for one child; it's for all the children, whether they have challenges or not, because each child is challenged in one way or another. And, you know, we have to stop pointing the finger at one child. You know, I had a group here yesterday and they were criticising one of the clergy. I said, 'So, I'll just repeat you what Jesus said, "will the first of you without sin cast the first stone?" And toss it this way, please.' And of course, nobody said anything. So, each of us has challenges from the smallest and the youngest to whatever. And we need to learn how to deal with them and to become more tolerant. Jesus accepted everyone as he or she was, whether it was a harlot, a blind man, a deaf-mute, someone paralysed, the people who hated him. He accepted everyone. Why can't we take that as an example? And we who consider ourselves 'whole' or 'normal' whatever you want to call us, should look at these others and learn from them." [**ETs:** Role of Clergy; Purpose of Use; Inclusivity; Individual and Community]

The participant highlighted the need for clergy to play an active role in enlightening the congregation about the possible uses of such technology in this capacity. He made reference to what Jesus said about casting the first stone (John 8:7), which suggests that he anticipated hesitancy on behalf of the wider membership. It is evident from his comment that he desires an inclusive environment by introducing some level of cultural change and raising awareness.

He was asked if he thought that there is an understanding broadly of the concept of *Imago Dei* and a strong sense of inclusivity at a congregational

level.

> [**Q5.20**] - *"No. No. I don't think that. I don't think people have come to that level. [..] We are not to bring Christ down to them, we are to bring them up to Christ, and that is through education as well. You can't share with someone what you do not possess, but if you possess love, harmony, understanding, kindness on down the line, then you can share those things. But we need to capture them and live them first."* [**ETs:** Theological Thought; Inclusivity; Role of Clergy]

This comment by the participant indicated that he did not feel that theological factors play a significant role in shaping the views of the congregation about the importance of inclusion of those with autism or the acceptance of mobile technology within this context. Once again, the importance of raising awareness and education was identified as being a key strategy in addressing this issue.

The participant was asked to clarify further whether he felt that education and raising awareness would play a key role and that this would be disseminated by clergy.

> [**Q5.21**] - *"The best example in the churches? Microphones. There were no microphones. You don't see them in any of the icons, do you? And then, all of a sudden, we had microphones, and people were like, 'Ah! You can hear! Listen!' We have to see that technologies are not evil, it's how you use it."* [**ETs:** Purpose of Use; Individual and Community]

The participant provided an example of microphone use within the churches. Although this example is not confined to mobile technology, he seemed to provide this as an example of evolving attitudes over time. It was perhaps an example that could be used to illustrate the benefits of technology to the wider membership of the church, many of whom benefit from the presence of microphones. He stated that it is the purpose of use of technology that is important and that it can be for the greater good. In the case of the microphone, the technology is for the shared benefit of the majority within the church, as opposed to a single individual.

The participant was asked if he felt that technology was viewed as being evil:

[**Q5.22**] - *"Sometimes. Especially, you know, when we talk about addiction. And I'm not talking about addiction to [.. but] about addiction to technology, to the internet and to chat rooms, and to this and that. People can't carry on a conversation anymore. I taught in university, by the way. I taught in [redacted]. Young people can't carry on a conversation. And this (holding mobile phone) is the greatest resource of knowledge for them. This little thing we hold in our hands. I said, 'why don't you read a book?', 'Is it available on Kindle?'. 'Go buy a book! Hold it. Feel what it's like. You know, there's more to it than just the words on the page. Even smell the book. The paper!' So, you know, technology can be an addiction in itself, but I also believe something else that I told the Patriarch, and that is, in today's world, you must command two languages. The first is English. The second is technology."*
[**ETs:** Purpose of Use; Digital v. Analogue

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His comments hint at a possible underlying prejudice towards technology and, particularly, its impact on younger generations. He described people as being addicted and that this has an impact on social communication. Having taught at University, he has been regularly exposed to generations of younger people over a period of time and has witnessed changes in culture during that time. He mentioned the concept of addiction to technology, which is a concern that can be encountered in wider-society (O'Keefe 2019; Leszcz 2021).

The participant's comments about Kindle devices suggested that there may be an underlying prejudice of the digital over the analogue. A book, perhaps, can be shared, whereas Kindle books tend to be for a single user. He suggests physical books are somewhat emotive objects, describing their smell and urging his students to pick one up and feel it.

He recounted a conversation with the Patriarch where they discussed the importance of technology, quickly highlighting a more positive stance.

Using the example of PECS (Picture Exchange Communication Systems), which are picture-based cards to facilitate, supplement or replace verbal communication (Chien, Lin and Yu 2014), the participant was asked if physical support aids would be more acceptable than digital ones within the churches?

[**Q5.23**] - *"Well, I think so. Look, we are living in a very different situation and time. If we did not have technology, people could not follow the Easter service because of Zoom, online... So, you see that the physical things are not always bad. The online things are not always bad...So, I think that anything that we can use in a good and proper way is wonderful."* [**ETs:** Digital v. Analogue]

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The participant described how the COVID-19 pandemic had brought about a shift in behaviours and how technology has facilitated a continuation of the work of the Church. He did state his dislike of Zoom video conference meetings but described the opportunity to use technology to overcome issues regarding work and communications as a positive thing.

The participant was asked whether he felt that the COVID-19 pandemic would bring about an accelerated change in technology acceptance within the churches. He replied by stating that it had forced the churches to develop "*new means and styles*" to cope with the situation. He used the word "*forced*" but it is not clear whether this suggested a reluctance. Given his wider attitudes to the adoption of technology, it would seem this referred more to COVID-19 being a catalyst for change.

He was asked if streaming of the Liturgy would continue:

> [**Q5.24**] - *"At least for right now, because there's limited space in the churches. One, people can't get in and, number two, people are afraid and, number three, we are meeting a need that we never met before and that's for those who are disabled, physically, or bedridden, or something else, and they are able to watch, at least. We have parishes in the United States and here who do it year-round."* [ETs: Inclusivity; Digital v Analogue]

The participant highlighted the role of technology in the continuation of the churches activities but also in terms of inclusivity. He also highlighted that there were parishes in the United States and the UK that were streaming services online prior to the COVID-19 pandemic and had experienced benefits in terms of inclusivity and widening access.

The participant was asked if he anticipated that the pandemic would bring about changes, particularly in reference to older people and with regard to their attitudes towards technology. In response, he touched on the strong desires of older members of the Church to attend Liturgy. This reinforced the point that attendance at church goes beyond the community, and can be a strongly individual act of worship. When they attend church, the participant suggested that older members of the congregation especially, can bring their own individual needs, with the implication that this can impact on the way the behaviours and activities of others in the church are perceived and tolerated. When asked if this was out of a sense of presenteeism, he replied that it was also out of fear. He felt that advanced age meant that older members of the congregation could feel a strong desire to see the icons (religious images) and receive Holy Communion [**Q5.25**] "*in case I die*". The participant gave the impression that older members of the Church also needed that strong cultural anchor at that time [**ETs:** Individual and Community], including at the time of the COVID-19 pandemic.

Moving the conversation forward and within the context of children being Chrismated and receiving Communion from a much earlier age in Orthodox churches in comparison with the Anglican and Roman Catholic churches, the participant was asked if he felt that mobile technology could be used to support autistic children in receiving Communion, perhaps as a tool for preparation of education.

[**Q5.26**] - *"Teaching children how they receive? 'Oh, you see, Billy's doing it, so, tomorrow, when we go to church, it's going to be your turn.' You know, and even practising at home. I had a woman come to church. We were Communing the people and*

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she said, 'You know, I had coffee this morning?' and I said, 'When was the last time you took Communion?' and she said it was months ago because she couldn't come. I said, 'I'm sure God will forgive you and so will I.' I mean, the Church has to show Her love, now, not her imposing thumb." [**ETs:** Inclusivity; Theological Thought; Individual and Community]

The participant gave a brief example of how he foresaw the use of mobile technology in supporting a child in preparation for Holy Communion. He then proceeded to refer to the tradition of fasting the week before receiving Communion that is prevalent within the Orthodox tradition (Saint George Greek Orthodox Cathedral 2021). Here, he placed religious priorities over those of cultural tradition.

Continuing the interview, the participant was asked whether, in terms of technology acceptance within this context, there was anything he felt that we hadn't yet covered. He said that there wasn't but that if he thought of anything, he would get back in touch.

The discussion was then brought to a close.

5.1   Researcher's Reflection

My interview with the participant was the second interview that I conducted and was enjoyable and informative. It was clear in the interview that the participant had a strong interest in how technology could be used within the church and that he also had a good baseline understanding of autism, often

drawing on personal experiences and anecdotes.

While it was anticipated that culture might feature in the interview, there were stronger socio-cultural and theological elements to the conversation than I had anticipated. This may have been reflection of the background of the participant or, having been in post for a relatively short space of time at the time of writing, his mindset was very much about the Church and bringing about cultural and organisational changes within it as Archbishop.

On reflection, I realise that this interview had been the most intimidating and the one where I felt the most self-conscious. The somewhat authoritative manner in which the participant spoke, combined with my own self-consciousness about being officially Eastern Orthodox while lacking a good understanding of the denomination, contributed to this significantly. It was evident throughout the interview, however, that the participant had given up his time because he felt the topic was important and was keen to support and help.

Chapter 6

Results: The Roman Catholic Church

For details on the presentation of results, please refer to Section 3.11.6 of the Methodology on page 156.

The interview commenced with an exchange of comments about the quality of the connection and he was asked to provide a little bit of information about himself.

The participant said that, while at school, he had always taken a keen interest in science and physics before deciding to go to University and study physics. After graduating, he went on to work as an engineer. It was while in London that he said he began to feel "*God's calling*" to become a priest. So he attended Seminary in Rome, where his interests gravitated toward philosophy. He then chose philosophy as his specialism, where he spent ten years teaching the subject. Following his time in seminary, he was ordained

a priest and later consecrated as a bishop.

He explained that several events inspired his interest in supporting people with disabilities, and he took an interest in how people could be supported, including within church environments. He has worked with deaf services nationally, and his interest in autism grew through knowing a teaching assistant who specialised in support of autistic children. He was interested, more broadly, in how relatively small barriers could be removed or adjustments made to widen access.

Picking up on his earlier comment about the removal of small barriers for the sake of inclusion, the participant was then asked if he had any examples of that:

> [**Q6.1**] - *"Well... thinking back to the... I mean, it's even little things like the availability of large print books, for instance. Certain sorts of music work well with people with tinnitus. In terms of, the more... obvious things. I remember working with Christina. We were talking about the preparedness of children or older people to receive the Sacraments, in particular, or Confirmation or First Communion, and... you know, I was very interested in what she said about, um, the way we can sometimes think in rather sort of... what's the word? Sort of presuppose that [..] people aren't able to communicate in a fluent way and that there's lots of ways in which we can actually get a feeling for someone's real appreciation for the presence of Christ in the Eucharist."* [**ETs:** Inclusivity; Theological Thought]

The participant touched on a number of examples of adaptations for

inclusion before proceeding to talk about preparing children and older people for receiving the Sacraments, including First Communion. The participant drew on the idea of presence and that it may not always be in a recognisable way. He appeared to suggest that, with an open mind, people can attune themselves into the spiritual engagement of others.

[**Q6.2**] - *"We can't necessarily put that into words, and she gave an example of a young person who, sort of, when the priest said 'Body of Christ', came up for First Communion, now... I forget exactly what the response was, but it was very obvious, physical sort of, enthusiasm and so on. But it was not... I don't think she was actually able to articulate. You know, she couldn't speak in the normal way, as it were. You know, so it would be easy to assume that someone like that would be able to [..]"* [**ETs:** Inclusivity; Theological Thought]

At this point in the interview, the participant highlighted the example of the non-verbal spiritual expression of the disabled young person (disability unknown) who, although could not express verbally the response to the priest's words, ("Body of Christ"), was able to express enthusiasm for what was happening and what was being said. The participant was asked how he felt such expressions might be received by both the clergy and congregation:

[**Q6.3**] - *"Yeah, I mean... For example, if I'm saying Mass and there's a child making a lot of noise at the back of church, which may just be a baby crying, but it may be... I mean, sometimes it sounds like somebody might be... I don't know enough about the*

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*sorts of disability, but someone who is, um... you know... just
sort of... a disabled person who is feeling tentative and making
rather incoherent noises, sort of thing. So, I always got to go back
to the back of my mind when there's something which might sound
like a disturbance going on. I'm sort of, you know... I guess a
priests' response to that sort of situation could vary quite a bit.
And, um, you know if something like that happens, I mean, it may
just be a baby making noises or something but I sort of [laugh]...
I sort of try and look, how shall I say? Well, not cross but more
sort of pleased that the person is there."* [**ETs:** Inclusivity; Role
of Clergy]

The participant suggested that the clergy may help create an inclusive
environment within the Mass by demonstrating welcoming behaviours. He
suggested that priests' reactions to disruptive behaviours might vary due to
the individual but that some clergy will likely make a conscious effort to show
a welcoming response. He hinted that this might be to provide reassurance
and demonstrate welcoming behaviours to other congregation members.

The interview was briefly paused at this point due to loss of signal, al-
lowing the interviewer to move to a location with a better signal.

The participant was asked to clarify if he felt that such welcoming be-
haviour on the part of the priest would signal to the wider congregation to
practice similar behaviours.?

[**Q6.4**] - *"Yes, I think so. Not as much as I would like, I suppose.
But I still... it would be a lot worse if I started to look cross*

or, um, you know... or even worse, if I sort of said something,
you know? How shall I say it? Sort of expressing annoyance in
some way or something like that. But I guess, you see, there's
always this thing when people come to church, sometimes with a
sort of mindset of, "I want to feel devotional," which is great,
but it can sometimes focus too much on how I'm feeling and my
sort of experience of being in church and, as a member of the
congregation, I can see other members of the congregation, in
some way, disturbing that. When you come to a congregation,
you have to accept that there's, you know, we all come together
with all our variety and different situations and it's not going
to be a perfect, sort of, [aesthetic] religious, spiritual experience.
You know, there's the limitations of having all the other people
there and, you know, it's a collection of how you approach it.
And I think our people can get a bit individualistic in that way
and then, you know, if someone else is being a bit noisy, that sort
of, you know, in a sense, spoils their experience of the Mass."
[**ETs:** Individual and Community; Role of Clergy; Inclusivity]

The participant talked about the duality of worship within the church environment, where members of the congregation actively take part in a community-based and shared act of worship, but with a strong sense of importance placed on individual spiritual needs being met. Consequently, disruptive behaviour, either through the noise children might inevitably make, may be tolerated differently by individual members. This may not entirely be down to the personality of the individual members of the congregation, but also their specific spiritual needs that day. The participant suggested that the

priest can play a role in guiding congregational response by demonstrating tolerance.

[**Q6.5**] - *"[..] um, you know, take any opportunity, as a priest, of showing a welcoming, um, attitude, really. Whether the congregation picks that up is going to vary, isn't it?"* [**ETs:** Role of Clergy; Inclusivity]

Here, he suggested that the role that clergy can play in shaping tolerance, then is perhaps limited, depending on the settings and the people who may be in attendance that day.

[**Q6.6**] - *"There was a very good... what was it called now? The... the [Marriage and] Family Life Department of the Bishops' Conference, brought out a thing called... what was it called? It will come to me in a minute. It was about home is a holy place. It was brought out a few years ago, now. It was sort of encouraging people to think, 'Yes, OK. Life at home can be a bit messy or disorganised at times, or it's not always perfectly tidy," and, in a sense, we bring that to the Church and, this is part of our prayer. You know, it's just accepting that God can be with us in circumstances which don't appear ideal and spiritual or something... and I rather liked that idea, you know? It's sort of... it's not like going to a concert, or you know, something like.. Someone starts coughing and everyone, sort of, glares at them, or something like that, you know? [laugh]"*[**ETs:** Individual and Community; Role of Clergy]

The participant was then asked if perceptions around disruptive behaviour might transfer to technology use and whether knowing that the child (the user) is autistic might make a difference to those perceptions.

[**Q6.7**] - *"I guess the perceptions are bound to be negative, really, aren't they? Because people jump to conclusions and I can't think of a way of avoiding that, although there must be. Um, it needs some thought. I mean, I'm thinking, for instance, my father... he died a couple of years ago. To him, using a computer... this was before tablets and things, um, it's just using a computer. And, you know, he didn't realise, you know... it's not just about either playing games or sending emails... you know. I also use it to say the Office. You know, if I'm visiting, if I'm not at home. You know, I've got the Bible on it and you know, you can use the computer for all sorts of things. And it sort of made me think, in church, for instance, people can see a child playing games, or something like that, but it could equally be someone... it could be an adult using, um, a Mass app, Universalis, or something like that.*[**ETs:** Digital v Analogue; Purpose of Use; Individual and Community]

Here, the participant demonstrated an anticipation that perceptions of mobile technology use within churches are quite likely to be negative. He suggested that there is an assumption that people may assume that computer technology use might be for more frivolous uses, such as game playing. He highlighted, however, that there are potential uses, such as using it to access the Bible or the Office but that this might be unclear to observers within

the church. He made an age-based distinction in his example, where the younger person would likely be assumed to be playing games, where as an older person (an adult) would more likely be using to engage in the Mass, for example, by using the application *Universalis* (see section 2.6.1).

> [**Q6.8**] - *"Something you said earlier suggested that, um, you know, one scenario could be a parent, as it were, using a phone or a computer or something to keep the child distracted, but I think its .. I mean, that's obviously one possibility but it could also be, you know, a use of the thing that is more positive in itself. Maybe, you know, some children benefit from using these sort of symbols... I mean, I don't know much about it but I've see them used in some of these books intended for people with disabilities of sort."* [**ETs:** Inclusivity; Purpose of Use]

He appeared to make reference to PECS (see section 2.3.1), where picture cards can be used to supplement or support verbal expression in children or adults with limited speech. His use of the term "*more positive*" is of note, as he appears to compare the use of therapeutic support as a more worthwhile use of the device over playing games. This suggests that there may not be a widespread understanding or recognition that play-based behaviours on a mobile device by an autistic child may also be therapeutic. Such use might be perceived as being more frivolous or distracting. The PECS-based stories representing the Roman Catholic Mass and Orthodox Liturgy by Kinnard (2021) were discussed. These were briefly mentioned in relation to helping prepare autistic children in terms of anticipating events within the Liturgy.

The conversation then very quickly moved back to the idea of distraction

and the stigma attached to play behaviours within church settings. An anecdote was shared about a woman using Universalis on a smartphone in a church service to follow the Mass. The user then felt compelled to explain her use of the device to the priest, despite using an approved application for legitimate reasons.

[**Q6.9**] - *"I guess we could... you know, if we sort of got our act together a bit, we could maybe, um, having things in the newsletter saying, from time to time, just mentioning that some of these scenarios, you know, can come about. Um... I mean, I remember... it's not remotely connected to this but similar psychology in a sense... I was saying Mass for a group in the parish some years ago and, um, knew the people quite well...this was in my parish anyway, at the time and, half way through Mass, I noticed that there was someone who was continually, sort of, muttering... the background. And I thought, "Oh, OK, uh, it's a bit odd but don't say anything and then a little while later I realised that it was someone doing a simultaneous translation for somebody who didn't speak English. Quite remarkable, really, yes and it would have been easier to jump to the conclusion, 'Who's this person,' you know, 'interrupting my Mass' [laugh]"* [**ETs:** Inclusivity; Individual and Community]

Here the participant highlighted an example of a member of the congregation behaving in an inclusive manner to support the involvement of another member of the congregation in the Mass. It appeared that the situation was initially perceived as disruptive by the participant but did not make assumptions and did not outwardly react.

Turning the attention back to technology, the participant was asked if he had any information on the Roman Catholic Church's view on the use of technology, including from a possible theological perspective.

[**Q6.10**] - *"Well, I think it's early days in a way, um... [laugh]. We're not renowned for taking things up quickly but I mean, the only thing that really come up from a, sort of, formal point of view, in terms of guidance from the top, so to speak have generally been, sort of, to discourage or even forbid the use of things like tablets for saying Mass. So, as an (auto-missal?) or something, but on the other hand, all of us would probably do that if we were travelling and, you know, saying Mass in a hotel, or something. We wouldn't worry too much about it, but... so apart from that... in terms of, um, in terms of how people might use phones or tablets in the congregation... it's not really come up at all as far as I know, in a sort of... from an officially recognised point of view.*[**ETs:** Theological Thought; Role of Clergy]

The participant suggested that the novelty of technology might be part of the reason that the Church does not have a significant policy-based or established stance on its use yet. This includes within liturgical settings. That being said, he also demonstrates that there is use of mobile technology by clergy to support spiritual practice.

Taking the participant's comments into consideration, along with his seniority and roles within the Roman Catholic Church, including the Catholic Truth Society, there appears to be a strong suggestion that there may not have been a significant formal reflection on the matter amongst senior lead-

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ership.

> [**Q6.11**] - *The only thing, I suppose, I could say is that I use one particular app. Quite commonly used is Universalis, which has the, um, Divine Office and [..] the Breviary, Morning and Evening Prayer and all of those sorts of things, and the Mass and as well as having... it has the sort of, you know... normal English text, but it also has the Latin text of the Breviary, the Office of Morning and Evening prayer and in order to get that, they must have had the cooperation of the Vatican Press... the Vatican...um... Yeah, the Vatican Press, the bookshop the Vatican publishes. So, I think there's... in that sense... there are signs of cooperation already within the Church on some of those sort of technological tools. But, I haven't actually heard much about it, to be honest, other than that."*[**ETs:** Theological Thought]

The participant cited and interpreted the publication of the Universalis application as evidence of some reconciliation between the authorities within the Roman Catholic Church and the idea of technology use, perhaps including within spiritual settings such as the Mass, where it is intended for use.

The participant was then asked if he felt that there was something that could be done, on the part of technology or software producers that might help technology or the use of technology be more acceptable within such contexts.

> [**Q6.12**] - *"I think it's probably more of an issue for the congregation than the priest. I was just thinking, actually... we have*

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*a thing called the Council of Priests where representatives from
the priests and the Dioceses, we get together three times a year
and it's about 50 or 60 priests and a few other people. And at
the end of that, we say prayers during the day together and have
lunch. And, the traditional thing was that there would be a note
on the agenda saying, "don't forget to bring your Breviary book"
and, um... but in recent years... the last couple of years, anyway,
there's more than half the priests who are using their phone and,
the one difference between what's in the book and what's on the
phone is... I think for copyright reasons, the hymns aren't ex-
actly the same. And so... when we check beforehand, you know,
who's... how many of you have got the book and how many of you
have got the phone, there's more than half who have got the phone
and so we go with the one on the phone rather, than the one in
the book. So, in that sense, use of things like that is already quite
widespread amongst the priests themselves. But, less, so amongst
the average member of the congregation, I would imagine. Es-
pecially, as a lot of them would be tending to be rather elderly."*
[**ETs:** Theological Thought; Digital v Analogue; Individual and
Community]

The participant, while not addressing the question directly, mentioned the
use of mobile devices to support prayer by the clergy. In using the example
of the Council of Priests, he highlighted the growing proportion of priests
bringing the breviary on mobile devices rather than the physical books. In
his example, he suggested that over half of priests at the meetings are likely
to opt for mobile devices over the use of physical books. He went on to state

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that he feels the use would be much more widespread amongst the clergy than the congregation.

He was asked if he felt that the age of the congregation members might shape acceptance of mobile technology use in spiritual settings and whether such use might be a barrier to spirituality.

[**Q6.13**] - *"I don't think so, really. I mean... I... It's difficult to say about the congregation, really. Um... And I guess that will vary with age, but I don't think... I don't think it would be seen in that way by most of the priests because we've, sort of, increasingly got used to using it ourselves, um... mostly for things like... you know, some of the older priests will grumble a bit when... about people like me using the phone for your Bible and things like that, but, I don't know that it's all that much of an issue, really... amongst the priests but I still think that, amongst the congregation, we need to be aware of the danger of people jumping to conclusions and perhaps we ought to find ways of, um, alerting people that there are good ways of using phones and tablets and things. Mind you, it doesn't help that in... when I was parish priest, um, some of the... you go to the church and after Mass and just looking along the benches, and you'd see, towards the back of the church were, sort of, discarded packets of crisps and empty drinks cartons and things were left in the bins and you'd think, "hmmm" [laugh] We didn't use to do that in church, no in my day [both laugh]"* [**ETs:** Role of Clergy; Digital v Analogue; Individual and Community]

The response to the question about the age of congregational members is interesting in that the participant highlights that priests are already using mobile technology in a fairly significant way to support their spiritual practice. Priests in the Roman Catholic Church in the UK retire at a later age (typically 75 years or above) than in the Anglican Church, where there is a mandated retirement age of 70 for clergy (Pocklington 2014). With the number of men entering the priesthood declining, the average age of a Roman Catholic priest globally is now believed to be around 70 years (Wilson 2020). While he suggested some hesitancy amongst older priests, the majority of the clergy he made reference to can, consequently, be assumed to be older adults, suggesting that age, in itself, might not be a strong determining factor.

The participant was then asked if the behaviour demonstrated in his example might represent a shift in attitudes.

[**Q6.14**] - *"[laugh] Yeah. But I don't know about technology as such. I think it's more of a question of just... there's most of us wouldn't be that aware of the particular needs of either autistic people or people with various disabilities, and the more we can actually highlight those needs, just so people are aware that it's not just some kid wasting their time, you know, playing games in church"* [**ETs:** Inclusivity; Role of Clergy; Individual and Community]

Again, the participant suggested that game playing might be a less favourable activity compared to other possible uses. This is a view that might well be shared by the wider congregation. He also raised the importance of clergy being aware of different attitudes and expectations within members of

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the congregation.

> [**Q6.15**] - *"I suppose it's easy for me to think about this because I'm not running a parish [both laugh] but, I mean... For example, it might well help for a priest to put something in the newsletter about, maybe, inviting parents of children who have got various disabilities, contacting him and maybe talking over their situation and helping him to be aware of, you know, what their needs are."*
> [**ETs:** Role of Clergy; Inclusivity]

The participant suggested that the clergy can play an active role in supporting families to discuss their children's disabilities with the wider congregation. The difficulties for the family itself, however, were not discussed at this point.

The participant was asked about Pope Francis' comments in December, 2019, where he called for people to talk away from their mobile phones, "I ask myself if you, in your family, know how to communicate or are you like those kids at meal tables where everyone is chatting on their mobile phone.... where there is silence like at a a Mass but they don't communicate" (BBC News 2019). According to the same BBC article, in 2017 the Pope had criticised the holding up of phones in Mass, including by priests and bishops:

> [**Q6.16**] - *"I think that's a slightly different issue. I was reading something the other day that was referring back to something he said, Pope Francis. Um... I mean, I'm not quite sure how he puts it, but I tend to put it is, is... Bear with me for a minute...A bit of background. What I sometimes say is that there's two different*

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attitudes to life. You can either have a magical attitude that says that, 'I want God. Religion is about me persuading God to do what I want,' and therefore, you know, whether I'm a Christian or whether I'm, um, someone in a traditional religion in Africa and I want to put a curse on my enemy, or something, it's that sort of way around. Whereas, what I call the more genuine religious attitude is to say, 'I want to find out what God wants me to do,' rather than the other way around. Now,... Francis talks about a sort of technological... forget the exact word, but sort of technological attitude, but by that, I think he means that we can make the world do what we want by doing things to it technologically. So, I think that's a slightly different issue. It's not about using technology for a good purpose or a bad purpose. I mean, you could use it in different ways. Um, but, it's more a question of my attitude to the world around me and, you know... am I trying to fit into this world around me that God has created and I need to find my place in it, in order to be happy? Or is it just that I want the world to suit me, you know, and I... And it comes up in terms of attitude to the planet because, you know, we use the... the technological approach would be to use the world, or to abuse it and to hope that we could fix all of the problems with science, rather than changing our way of life, in order to fit in with what God's given us. So, I think there are some other issues there, that aren't necessarily to do with just things like using phones and whatnot, if you see what I mean?" [**ETs:** Purpose of Use; Theological Thought]

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The participant placed emphasis on the purpose of the use of technology, indicating that it is not that the Pope is against technology but that it should not be a point of distraction or a something in which all faith should be placed when looking for solutions to problems. In other words, technology should not be seen as a distraction from the importance of faith. A quote by Professor David Wells was put to the participant, "Technology per se does not assault the gospel but a technological society will find the gospel irrelevant." (Wells 1995).

[**Q6.17**] - *"Yes... that's partly, I think... I think that might be getting a bit off track there but it's pretty fundamental. When the Bible talks about not worshiping other gods, it's talking about, fundamentally... it's talking about looking for salvation somewhere other than God and putting our trust in idols of silver and gold, which are under our control and, that's coming back to the technological thing. It's just a primitive form of the same basic approach to life. So, in that sense... if we think we can solve all of our problems with technology, it's a bit like putting our trust in money or in armies or in politics or... the same sort of temptation they had in the Old Testament. It's just a modern version of the same issue, you know? So, again, it's sort of... I suppose the word 'technology'... it's got all sorts of different, um... it can mean different things in different contexts, you know? It's sort of, I suppose, morally neutral. Like any tool, it depends how you use it. But if it becomes a substitute for God or, if it's all about us having control over the world and, sort of, thinking that we don't need to worry about God because we're doing fine without him,*

thanks very much... I think that's the sort of thing David was talking about, probably." [**ETs:** Theological Thought, Purpose of Use]

The participant, once again, placed emphasis on the purpose. In response to the quote from Wells, the participant emphasises the importance of not putting faith in the use of technology before God. He drew parallels with early examples of idolisation and said that digital technology might be seen as just another modern-day example of such a distraction.

The paper by Hashim, Yussof and Bahrin (2017) was briefly mentioned where humanoid (Nao) robots were used for the spiritual augmentation of autistic children within the context of Islam. Concerns around idolatry were identified as part of the study.

[**Q6.18**] - *"It's very... I think there's a lot of potential for confusion, let's say and, because technology can be a substitute for God or an alternative route to salvation, let's say, you know? Or, a way of saving ourselves without reference to God, um, because it can be used in that way it doesn't mean to say that all technology is bad in itself. It could be used for a good purpose. I suppose, again, thinking about my father's assumption. It seems to me that, all uses of a computer are essentially the same, whereas I would say you can use it for all sorts of different things and can be very different. I'm just thinking about Thomas Aquinas's father might have grumbled about him, 'You're always writing!' you know? And, well, yeah, but there are different sorts of writing and different sort of reading and you can be, you know, reading prayers,*

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or you can be reading science, or poetry and all sorts of things. And, similarly, with technology... I think people, sometimes, tend to just think of it as a single thing, and it just depends a lot on how you use it." [**ETs:** Theological Thought, Digital v Analogue]

The participant seemed to suggest that there were broad assumptions around the use of mobile technology and digital technology more broadly.

It was clarified with the participant whether he was saying that technology is not inherently bad but how it is used.

[**Q6.19**] - *"Yes, it's the attitude we bring to it, I'd say. Yes."*[**ETs:** Purpose of Use]

The participant was then asked if the concerns around the purpose of use would also apply to the perceptions of the congregations of mobile technology use in churches.

[**Q6.20**] - *"Um, well, I suppose the thing is... let's say... let's say that I'm on a train and I see some youngster doing something with their phone, and more often than not, they're probably playing some game. And you can sort of tell by the way their fingers are working that that is probably what they are doing. Um, and... um, so I suppose... you know, nine times out of ten that probably is what they're doing, but it doesn't mean it can't be used for something else. So, I suppose, in a sense, it's a natural assumption for anyone who sees a child bent over a phone screen, you know, while in church, they're doing something that is just*

a distraction from what they ought to be doing, as it were. But, that's not necessarily the case. I mean, if they were... if it was a book they were reading, um, because we're used to the idea of books, you might... the average person might be quite likely to assume it's a prayer book or a book about the Mass or something like that. Because we're used to that idea and, if its a phone, it could equally well be that, really, couldn't it? But, but people might not be aware of that." [**ETs:** Purpose of Use; Individual and Community; Digital v Analogue]

Again, the participant described gaming use as an almost inevitable distraction from the Mass or what was going on around the user. He also indicated that the assumption that such a device being used by a younger person would be for the purposes of gaming ("nine times out of ten"). The participant was then asked if he felt, on a parish level, if there are any practical implications to the use of mobile technology in this context or whether anything could be done to make acceptance easier or more difficult.

[**Q6.21**] - *"Umm... [pause] Well, I'm sort of thinking... I've already mentioned about, um, opportunity for communicating with people, perhaps through the newsletter and so on. Um... Other than that... the other thing that springs to mind, I suppose is a question of... the question of children's Liturgy. Is that a good thing or not depending on the situation. In a way... in a way... in the context of a Children's Liturgy, you can make provision for people with particular disabilities."* [**ETs:** Role of Clergy; Inclusivity; Individual and Community]

Continuing, he states:

[**Q6.22**] - *"Whether that would... the possibility of having a Children's Liturgy where, particularly there might be people able to... experience with the needs of autistic children or people with various disabilities. But on the other... so there might be something to explore there. Um... but obviously we don't want children of any sort spending... we want them to have some time in the church as well as having some time in the... wherever they have the children's' Liturgy."* [**ETs:** Inclusivity]

Here, the participant discussed the idea of a children's Liturgy where the needs of autistic children could, perhaps, be more specifically catered for. He cautioned, however, against the idea of a dependence on such provision for inclusion and ongoing separation of the children from the Mass, indicating that fellowship is an important consideration. The participant was then asked if the children's' Liturgy would be in a separate space.

[**Q6.23**] - *"Yes, what happens in many churches. Say... let's say they have Mass... there might be an early Mass, which might be a fairly quiet Mass, there might be... the mid-Morning Mass on a Sunday will very often be, have this sort of family orientation. It might have slightly more lively singing if they have singing. Typically, what will happen there is that the priest will, after the... either after the opening prayer or before the opening prayer, so pretty early on, he will invite the younger children to come forward and there will be a couple of, or two or three of various... as*

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required, adult, um, catechists or leaders and, um, so he will invite them forward and invite them to go off to their... which may be, for example, a side-chapel in the church with doors that close or it may be the hall next-door or some other place where then the catechist will then, usually do various sorts of... little sorts of things with the children. It will involve reading just the Gospel, maybe in a simplified form, um, and, you know, it might involve, probably some questions and answers and a little bit of discussion about the Gospel of the day. They'll end up doing some colouring, or something like that, you know. And then, typically, they'll come back into church at the Offertory, and they'll come up with the bread and the wine and the money and the priest will welcome them back, and then they'll go back to their parents then for the, the... what we call the Eucharistic Prayer, the second part of the Mass. And that... I think that probably happens in at least half the parishes." [**ETs:** Individual and Community; Inclusivity]

Although not targeted specifically towards autistic children, the participant described the special provision made for children during the Mass, where they engage in age-appropriate activities with catechists (individuals involved in religious education).

The participant continues;

[**Q6.24**] - "Usually just at that one Mass and its got the advantage that it's... the catechist can engage a bit more with the children and so it's a bit less passive than all just sort of sitting there, and... but on the other hand it does mean that, when they come back

into church, they're sort of sitting through the Eucharistic Prayer, which is itself, fairly passive. [..] maybe it's getting them used to the, sort of rhythm of the Mass and the... and just being there for the Consecration and... so, yes... it's sort of, um... it seems to be quite popular, so it... obviously fulfils a need, um. I mean, there's a danger that it ends up just being an excuse for getting the children out of the way for the sermon [both laugh] [signal drops out]. I've been to a number of other churches, you know, different denominations, where they have different variations on the same sort of idea. In the Methodist church I went to down the road, one time, when I wasn't otherwise booked up on a Sunday morning, the... um... the minister himself had a little session with the children right at the start of the service and they went off and did their own thing, so there was a bit more engagement by the actual clergyman." [**ETs:** Individual and Community; Inclusivity]

The participant acknowledged the benefits of specific provisions of Sunday School for children but also highlighted potential problems with the separating of children from key liturgical events and shared worship. He mentioned that it might be an excuse to minimise disruptive behaviour or distraction from the children for the benefit of adults or older children in the congregation.

Stating that he did not feel particularly familiar with autism, he acknowledged that autistic people can vary in their presentations.

[**Q6.25**] - *"They're also, sort of... people with different forms of autism can, you know, socialising can be a bit of a tricky one. I*

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don't know, you know... some are perhaps happier on their own doing their own thing [laugh]." [**ETs:** Inclusivity]

He was then asked whether an awareness of the differences in the thoughts, feelings and perceptions that can be experienced by autistic children, congregations may also have an awareness and greater sense of openness to the use of mobile technology and the benefits it might bring, even if perceived as a distraction (e.g. playing of games).

[**Q6.26**] - *"Yes, in the context of being aware of... and... um... you know, the sort of thing one could do in a parish would be to invite someone to perhaps, you know, give a talk... a short talk about it a bit. We had a Churches Together in South London... a couple of times a year they have an evening where they have someone in to give a talk on, you know, some talk of interest. And, there was one really good one I went to, by a woman speaking about herself as an autistic person. And, um... which was fascinating, really, and... because it tends to... we tend to think of it as more of a male thing and I think it does tend to effect males more than females."* [**ETs:** Inclusivity; Individual and Community]

In mentioning this example, the participant highlighted the benefits of hearing directly from an autistic member of the church. In his comments, the participant also demonstrated an awareness of the gender gap in the diagnoses of autism. The participant continued;

[**Q6.27**] - *"But, you know, there's the sort of... there's the sort of*

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stereotype of the male techie, sort of introvert, sort of person, as the typical autistic person and that's not necessarily the case, I gather. It was just interesting meeting... and particularly because she's autistic herself, so... she was saying something about... I forget the details now, but, you know, how she... how she handled various situations, you know, coming from... that background." [**ETs:** Inclusivity]

The participant was asked if the autistic person who did the talk mentioned her experiences in church more specifically.

[**Q6.28**] - *"I can't remember now. It's a little while ago, um... but the thing... it was just, I suppose it just broadened my scope of how I see autism. It's not necessarily... I suppose it's partly because people who fit in to the sort of... um, stereotype of how we normally think of autism. I suppose they're more likely to be diagnosed as well, so, in a sense, it's... perhaps it's a bit of a chicken and egg thing... um. But I can't remember what she said about church. I'm sure she did, but I don't remember now, unfortunately."* [**ETs:** Inclusivity]

Based on his earlier example in quote Q6.2, the participant was asked, from either a theological or more practical perspective, what the perceptions of clergy and congregations of the child expressing themselves non-verbally might be.

[**Q6.29**] - *"Yes, it was a child coming up for... to receive Holy Communion for the first time [..] you just said... and I can't*

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remember but there was some sort of inarticulate cry, I think,
that the child gave but it was obvious this was a very joyful thing,
you know? And it was quite clear, that, um, the child recognised
this as something very, very special. And I think this child was
also responding to the word "Jesus" at the time, so it was quite
specific, even though the child wasn't actually... what's the word?
Vocal. Couldn't, you know, verbalise words. So, it stuck in my
mind... just to be alert that we can sometimes underestimate
people's preparedness and appreciation of the, you know... of their
faith." [**ETs:** Inclusivity; Theological Thought]

The research by Hills, Clapton et al. (2019), who surveyed the views of non-verbal autistic individuals about their spirituality and Bustion (2017), who explored the views of autistic teenagers and young people about their Christianity, as expressed via online forums (see section 2.5) were briefly introduced. The participant was asked if there is anything that technologists could do to make technology more palatable, for example, on a visual basis. In other words, if somebody was using a tablet or phone in the church that was visually different, through the use of a specific cover to convey a sense of authorised use or church approval, for example, that it might help meet approval more readily.

[**Q6.30**] - *"Oh, um... yes... [laugh] I'm thinking of marketing*
opportunities for the Catholic Truth Society [both laugh]. As the
Chairman! Ah! Interesting! I don't know, really. It might take
a while for people to cotton on to what this was, um... but I
sort of suspect that, you know, if someone sees a child or an

adult, as it were, you know, leaning over a screen, they are liable to... whatever you do, they're liable to... um, jump to certain conclusions about that, unless, either the priest or the congregation... there's been some sort of, um, effort made to, um... help people to understand that, particularly the needs of autistic people or other people with various abilities. Um. Interesting idea, though... whether they could be, you know... you could have sort of an iPad cover that sort of, you know... bit more churchey looking, or something...[laugh] not sure!" [**ETs:** Individual and Community]

It was suggested by the interviewer that the church might own three or four tablets that could be distributed for use.

[**Q6.31**] - *"Yeah, yeah. That could... and particularly if they... they had... you know, specific software available that was relevant to those particular needs. Yeah!"* [**ETs:** Inclusivity; Individual and Community]

The participant was then asked to clarify that he was suggesting that there was not much of a sense of technophobia within the clergy.

[**Q6.32**] - *"Generally, no, I'd say. I mean, it's going to vary, obviously, with individuals, but not [..] rule, no. "* [**ETs:** Role of Clergy]

The participant was asked if it mattered *who* made prayer applications

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such as Universalis and whether this might have an impact on the acceptance of such use.

[**Q6.33**] - *"Well, this particular app, which is probably the most widely used one, is actually... I had a chat with the chap... I forget his name, now. An elderly, Polish gentleman, actually, not living far from our cathedral in Waterloo. Um, he came in and have a chat with me and the Archbishop's secretary with a view to just saying if we could encourage the take-up amongst the clergy and more broadly in the church. And... you can tell by using the app... I mean, he's got an introduction about the saint of each day and, you know, and... there's just something about the... he's obviously coming from a very Catholic sort of perspective and it's just the sort of... how shall I say? Just... using the app. It's just sort of... in a sense, it doesn't need to have a sort... it doesn't need to come from the Bishop's Conference because it just, sort of... culturally, it comes very naturally to us, anyway. It's difficult to quite put it into words. But it's just... somehow it feels very Catholic anyway. Although I'm sure there's lots of people who use it...some of the more Catholic-minded Anglicans probably use it, and so on, as well. So, I don't know... I mean, as I was saying earlier, I'm pretty sure it must have been produced with some cooperation from the Vatican, anyway. Just... in terms of things like copyright issues. So, yeah... I'd say there's quite a lot of synergy there, already. In that particular... in the case of that particular app and... I'd say... yeah, I mean I've not got much experience of other ones because they're usually not quite*

so comprehensive, so I don't tend to use them so much." [**ETs:** Individual and Community, Theological Thought]

The interviewer clarified with the participant that his view was that, while some variation might be anticipated, depending on the individual, there was broadly an acceptance of the use of mobile technology within spiritual settings by the clergy in the UK but, that, within the congregation, that same level of acceptance might not be reflected.

[**Q6.34**] - *"It's going to vary, yes. I'd say certainly... um... in practice, although... the Church includes everyone, obviously but, in practice, the priest tends to have a pretty big influence and, um... most of the parish priests, or most of the priests I know, are pretty familiar with it. My parish priest, next door, for instance. He's not particularly tech-savvy, but he's found out how to use an iPad to record the Mass and he does that everyday and puts that up on YouTube, you know, during... since the pandemic. So, you know, that's... and he's not a particularly... he had to struggle a bit to learn how to do it but he's been quite happy doing it."* [**ETs:** Role of Clergy; Digital v. Analogue]

Again, the participant reflected on the key role of the priests in demonstrating good practice and perhaps influencing the acceptance of technology acceptance. In demonstrating their own use, the confidence in the congregation might also increase.

Given the changes in behaviours associated with the COVID-19 pandemic, the participant was then asked if he felt that the behaviours demon-

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strated by clergy around the use of mobile technology were more likely to filter down to the congregational and membership level.

[**Q6.35**] - *"Yes. I mean, the whole thing about Masses being streamed or put on YouTube, um... um... I think [signal drops] you know, we're much more [..] I mentioned. One of the things that's been a bit of an issue in the past is, how do we reach out to people who are housebound and, obviously we bring them Communion, but is there some other way of au... additional way of perhaps... and so, you know, by streaming the Mass... and it didn't just start with Covid, but it certainly... taken off. But there were already churches doing that before with the idea of reaching out to the housebound and the elderly. The main problem being that those sorts of people would tend to be less tech-aware and therefore they probably need younger relatives to set the thing up for them. To receive... to be able to watch the Mass from their home. But I think as a result of the pandemic, then, there probably has been rather more, um, assistance from, maybe other family members and friends and so on for people who are housebound and [..] help them get up and running in being able to see the Mass online. I don't know, but, um, I'm hoping that's the case."* [**ETs:** Inclusivity; Digital v. Analogue]

The participant stated that the use of streaming services to share the Mass with those unable to attend church services is not an entirely new practice in some parishes. It is of note that the participant stated that this was being done with the intent of opening up worship opportunities to those who are

elderly or housebound. In other words, technology is already being adopted by the Church for the purposes of inclusivity. The COVID-19 pandemic has meant that more people, including more elderly members of congregations, will have likely used mobile technology at home. It was suggested, then, that this would, in turn, potentially impact the uptake of such technology and its acceptance within the church environment.

> [**Q6.36**] - *"I mean the thing is, with someone like my father... you know, he's... um, how shall I say? You know, one of very few foibles but he was very definitely... he had no time for computers or tablets of mobile phones or anything like that, so, um... When he started to be effected by dementia and he wasn't able to use his Morning and Evening Prayer book, which he had done for years - he was a Seminarian in his youth... when it wasn't any longer possible for him to do that, he could've kept on saying the Office if he'd had the app on the phone because it's much easier because you haven't got to flip around with markers and all that sort of thing, you just... but that wasn't an option for him, because... there wasn't any point in even suggesting it. So, some people wouldn't be open to that at all but I guess the number is gradually decreasing and a lot of elderly people are quite, um, at home ordering things on the Internet and things like that, watching YouTube and so on [both laugh]."* [**ETs:** Digital v. Analogue]

The participant highlighted the benefits of older people using mobile technology, and how it can make sometimes difficult tasks easier to approach. Despite this, he highlights the difficulties around resistance to taking up such opportunities.

The participant was thanked for his time, and the interview was ended.

6.1   Researcher's Reflection

As with the other participants, I greatly enjoyed interviewing the participant, who was the first participant in this study and felt very privileged to have secured his time.

I felt nervous, as with each of the participants, but his demeanour soon put me at ease and we could engage in a fruitful conversation. This was the most conversational of the interviews. Although I had never met the participant, his relaxed dress in a clerical shirt, without his clerical collar on was reminiscent for me, based on my personal background and so I felt slightly more relaxed with this participant. His experience in STEM also potentially played a role in making me feel comfortable discussing the topic.

The interview was slightly disjointed at times by intermittent connection drop-outs during the video call. While a frustration, primarily for me as the interviewer, I do not feel this detracted from the contents of the interview in any significant way. The interview itself was very helpful as the participant provided useful and pragmatic insight into the various attitudes that might be encountered towards mobile technology use, both within the clergy and also at a congregational level.

Chapter 7

Discussion and Analysis

This chapter aims to provide in-depth analysis and discussion around the emergent themes that were identified during the interpretive analysis of the interview data that was collected during this study. The original research question was:

"What are the themes that shape the acceptance of mobile technology use by the UK Christian community when it is used by autistic children and their families in spiritual spaces?"

During this study, six emergent themes were identified during the analysis of the interview data. These are briefly outlined below. Each of these emergent themes is interpreted as influencing the acceptance of mobile technology by the UK Christian community when it is used by autistic children in churches or liturgical settings. For the purposes of brevity, this will be referred to as 'in churches' from this point but assumed to include liturgical events and all acts of shared worship.

The themes that are identified are outlined in the section below. They include:

- **Inclusivity** - representing the beliefs, motivations and practices of the UK Christian community to be inclusive to autistic children and their families.

- **Role of Clergy** - representing the behaviours and attitudes of clergy and how these influence the behaviours and attitudes of others within the churches.

- **Theological Thought** - representing theological thoughts, which may influence the acceptance of mobile technology use by the UK Christian community.

- **Purpose of Use** - representing the motivations or goals that lie behind the use of mobile technology within churches of liturgical settings.

- **Digital vs Analogue** - representing the comparisons in practices and preferences between digital and analogue technology use within churches and liturgical settings.

- **Individual and Community** - representing the variation in cultures that can be found in churches in the UK, along with the needs, beliefs and desires of both individual worshipers and the community.

This chapter considers each of these themes in turn, addressing their relationship to the acceptance of the use of mobile technology in this capacity

while drawing on literature addressed in the foundational literature review (see Chapter 2). It also draws on additional sources where appropriate to facilitate the discussion.

The themes that emerged from the data during the analysis were not necessarily confined to the context of autism support or mobile technology use in churches specifically. In many instances, the themes identified were representative of the wider implications of the Community's relationship with digital technology, particularly when used within in churches.

Figure 7.1 illustrates the six themes and their *interpreted* relationships with each other. The thickness of the lines represent the strength of influence on mobile technology acceptance when used by autistic children within the Christian spiritual settings. As it is not based on quantitative measures, the strength of the influences is also interpreted. It should be emphasised, however, that this diagram is not a model but a graphical representation of the relationship between the emergent themes as identified during the analysis (J. Smith, Flowers and Larkin 2009) (see Section 3.11.5). The development of a model, however, represents a potentially useful area of future research, and it is hoped that this body of work might serve, in part, as a foundation for such an undertaking.
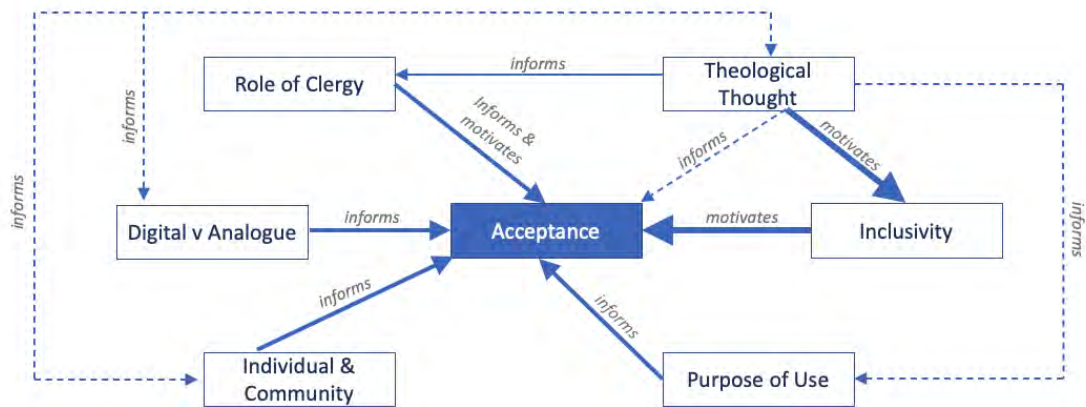
Figure 7.1: Emergent Themes: shaping mobile technology acceptance by autistic children within the UK Christian Community

Where quotes are referred to in the discussion, the quotation numbering system, as outlined in Chapters 4, 5 and 6, is used:
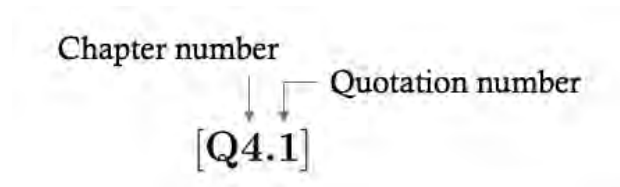
Figure 7.2: Quotation numbering system

Where reference is made to other themes, these are identified in **bold**. For example, **Role of Clergy**.

7.1 Inclusivity

This theme represents the motivations and practices of the UK Christian community to be inclusive to autistic children and their families. As is clear from the literature (see sections 2.5.1 and 2.5.2), the Christian Community in the UK has a strong desire to be inclusive to all people, including children with autism, along with their families and caregivers (Marker, Weeks and Kraegel 2007; Hills and Meteyard 2013; Ekas, Tidman and Timmons 2019). Indeed, the large Christian Community that is based in the UK represents a significant opportunity for autistic children and their families to forge important and valuable social contacts (J. Dunn 2004; Vine Foggo and Webster 2017; Dovgan and Mazurek 2019), along with the opportunity to access practical, spiritual and pastoral support. These have been demonstrated in the literature to represent important health outcomes for those living with autism (see section 2.2). It is not enough, however, to draw on the spiritual desire to be inclusive. The UK Christian community is a lived human experience and, as is described by Macaskill (2019, p. 97), "*the place where the battle of the flesh and the Spirit occurs most violently, and it may, therefore, continue to be full of dangers for its vulnerable members.*" To an extent, the data that emerged in this study reflected the views of Macaskill (ibid.).

The UK Christian community, in itself, has motivations to widen participation and benefit from a diversity that extends beyond a sense of benevolence to the autistic individual (Reynolds 2012), along with the benefits that diverse membership can bring to the Community. There are also certain legislative expectations placed on organisations such as churches to provide access to those with disabilities, including autism (see Section 2.5.1)(UK

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Government 2009). In terms of church policy on the inclusion of those with autism, specifically, it is not yet well established. This may, in part, be due to the relatively recent recognition of autism in relation to the age of the churches as institutions themselves (Waldock and Forrester-Jones 2020).

The remainder of this section focuses on the key aspects of **Inclusivity** as a theme in shaping mobile technology acceptance as it emerged in the analysis.

7.1.1 Theological Alignment

The theological issues around inclusivity by the UK Christian community are addressed in more detail in section 7.3. The theology of disability is a discipline in its own right, and a critique of such theological views are outside of the scope of this thesis. Nevertheless, it can be stated that Christianity's religious teachings encourage the inclusion of those with disabilities as full members of the Church.

To establish the extent to which theological thought might influence the views of the congregations, there was limited data found. One participant was asked if he felt that people in congregations were aware of such theological and philosophical motivations, such as *imago Dei* (see section 7.3), to support the inclusion of autistic children;

> *"No. No. I don't think that. I don't think people have come to that level. [..] We are not to bring Christ down to them, we are to bring them up to Christ, and that is through education as well. You can't share with someone what you do not possess, but if you*

possess love, harmony, understanding, kindness on down the line,
then you can share those things. But we need to capture them and
live them first." [Q5.20]

The participant also stated that Jesus accepted everyone as he or she was, whether, "*it was a harlot, a blind man, a deaf-mute, someone paralysed, the people who hated him. He accepted everyone. Why can't we take that as an example? And we who consider ourselves 'whole' or 'normal' whatever you want to call us, should look at these others and learn from them*" [Q5.19].

From the quotation and lack of other data, it is suggested, then, those theological motivations for **Inclusivity** are not likely to have a significant or direct impact on congregations and the wider membership of the churches in terms of acceptance. Instead, such **Theological Thought** is likely to be more of an indirect influence, especially through the **Role of Clergy**, who, as figures of authority in the Community, have the authority to instigate programmes of education and raise awareness.

7.1.2 Inclusivity as a Motivation for Mobile Technology Acceptance

It was argued by one participant that a lack of acceptance by the congregation of a child using a mobile device within the church for the purpose of inclusion, meant that, "*any claim that a church is genuinely a universally welcoming place is going to be a bit thin*" [Q4.9]. Indeed, it was suggested in the data that inclusion should go beyond simple tolerance or making allowances [Q4.11], and that a culture of true welcoming and belonging is needed.

This was echoed in some of the literature (Swinton 2012; Reynolds 2012; Duke and Mudge 2016; McMahon-Panther and Bornman 2020) where a true welcome in the church was argued to be more than mere tolerance, but one of a true belonging. Such views appear to emerge from both an ethical and theological stance.

Given the ongoing dependency on mHealth solutions and the use of mobile technology in both therapeutic and diagnostic scenarios, for example, with PECS (Davies 2017) and social stories (C. A. Gray 1998; Living Well With Autism 2021) (see Section 2.3.1), there is likely to be an ongoing need for acceptance of mobile device use within everyday settings, including churches. This will be particularly important, for example, where behavioural data needs to be collected within multiple everyday settings that the child attends or scenarios that they interact with. There is, perhaps, an opportunity, then, through acceptance, for the UK Christian community to actively engage in mobile technology in a bid to support the inclusion of children with autism within the churches, but also to play an active role in supporting the provision of healthcare and support. The use of such technology within churches may also support autistic children in their spiritual expression and engagement with the Community. The UK Christian community may choose to more actively engage with children through the development of more Christian-published applications, for example, by providing supportive aides such as PECS-style social stories through digital solutions, for example, the work of (Kinnard 2021).

Such solutions do not need to be confined, however, specifically for the in-clusion of children with disabilities. Two participants made specific reference to the potential catechetical applications of mobile technology, where children

could be supported in their preparation for Holy Communion, Baptism or liturgical attendance [Q5.9] [Q5.26] [Q6.23]. While not designed specifically for children with autism, where children with autism may experience anxiety about new situations (see Section 2.1.3) (Robison 2017) and where there is a preference for engaging with mobile technology (Benton et al. 2012), dedicated apps to support religious education may provide the autistic user with new and comforting ways of engaging in Christian material. In some cases, this is already taking place [Q5.10][Q5.11]. One participant suggested examples of how the touch-screen interface of mobile technology could be used to engage children in activities [Q5.13], for example, finger painting. This suggested an open-mindedness and curiosity around the potential for engaging such technology more broadly for the benefit of children in churches and religious upbringing, regardless of whether they have autism of not. It was difficult to establish to what extent this is happening from the data as it is confined to the participants' personal awareness. While digital apps to support prayer for children are available from various religious publishers, none of these appears to be officially published by the denominations represented in this study (Catholic Truth Society 2021; Church House Publishing 2021).

7.1.3 COVID-19 and Digital Inclusion

There has been a more recent reflection on the use of technology within churches due to the COVID-19 pandemic. Most significantly, the dialogue within the public domain has largely been focused on the ability to stream church services online. This was especially the case during the periods of national lock-downs in the UK (Caddick 2020; IFS 2021), where churches were shut to the public, although many services were allowed to continue

behind closed doors.

Where reflecting on the role of digital technology within the church, on a number of occasions, the streaming of services from churches was adopted by the participants as an example and a point of discussion. While not directly related to the topic being discussed, it seemed prominent in the minds of the interviewees and perhaps reflective of a wider dialogue or point of reflection that had been brought about by COVID-19. In some respects, digital access was no longer an issue confined to those with disabilities but had become a means of access on which most people, perhaps even the Church as a whole, then depended.

One participant suggested that it had been interesting to watch the debates as they emerged about the impact of online worship, which included whether digital worship was a "*very poor substitute for the real thing*" [Q4.22]. This argument was countered by the participant, however, with the view that, while it was perhaps not at the level of fellowship in person that members of the Christian Community would wish it to be, online presence in a spiritual settings is not any more artificial than speaking to someone on the telephone. This suggests that it is perhaps the novelty of the digital that contributes to any sense of uncertainty. Perhaps somewhat wryly, it was suggested that in-person interaction is not necessarily less artificial [Q4.23].

Despite such concerns being expressed by the wider membership of the Community, the participant also said that they had heard from some members that online provision of worship was "*a bit more manageable*" [Q4.22] and that, consequently, the benefits of such digital inclusion by providing an extra dimension of distance ought to be considered seriously. This might be particularly beneficial to some autistic members, as evidenced in the study

of Bustion (2017).

The Orthodox and Roman Catholic participants both expressed a ready acceptance of the idea of continuing streaming of services for those who were elderly, disabled, bed-ridden or unable to attend for physical reasons. Two participants claimed that the pandemic had been an opportunity to provide access to those who had not been able to be included before [Q6.35][Q5.24]. In the case of one of the participants, their acceptance might also have been shaped by experiences he had in other countries, where parishes were already providing such an option all year.

Fitzpatrick (2021) (Appendix D) stated that, whilst the return to in-person services had been welcome, it was now the congregations of a wide demographic (age and social class) who are driving the use of technology adoption in churches, regardless of any policy or theological considerations of clergy and senior leadership within the churches.

The ongoing dialogue around the continuation of streaming of services within UK churches represented a potential moment of reflection for the Christian Community regarding its relationship with digital technology. While the issue is not resolved universally within the Community, Endress (2021) argues that remote access and streaming should continue with a view to facilitating the inclusion of those with disabilities. With the caveat that the subject of online streaming of services was not explored in significant depth during the interviews conducted in this study, superficially, at least, the view of Endress (ibid.) has some alignment with those of the participants. In making this argument, there appears to be a willingness to consider the use of digital solutions to make the Church more accessible to a wider audience. The desire to include everyone, therefore, may be the motivator to consider

the wider use of digital technological solutions in UK Christian spaces.

7.1.4 Recognising Inclusion

One of the challenges that might be faced is whether there will be a consistent recognition of inclusion when it occurs. This might be particularly challenging when it is facilitated by mobile computing. As outlined in section 2.3.4, the optics of mobile technology use do not always suggest social cohesion and can, in the perceptions of some, undermine it. Instead, much of the imagery encountered, such as Figure 7.5 (see section 7.5.1) and Figure 7.4 (see section 7.3.3) portray the user as a zombie-like character that is immersed in their own world. In some respects, such imagery might be framed as representing the decay of society and peoples' interactions. Consequently, where mobile technology might be used to facilitate the social inclusion of children on the autism spectrum, the optics may run counter to an anticipated image of what inclusion looks like. This may be compounded by a lack of eye contact with other people (Trevisan et al. 2017), for instance, which can typically be associated with mobile device use. The literature shows that, for many children with autism, eye contact can be challenging and uncomfortable (Trevisan et al. 2017; Cook et al. 2017). Autistic people have reported that encouragement to engage in eye contact can detract from a conversation and make it very difficult to engage in what it is going on around them. The use of a mobile device then may provide welcome comfort to the user, but, in the case of the observer, the user may take on the appearance of someone who is isolated from the rest of the congregation.

Where **Purpose of Use** is important, a child playing apparently unre-

lated games or engaging with other favourite activities on the device as a means of sensorily or emotionally regulating themselves may not appear favourably or in a way that conforms with anticipated social norms. To the observer, such behaviours might be interpreted as irrelevant to the act of worship or even irreverent. The child's behaviour as a user might be interpreted as them not engaging spiritually with the shared act of worship occurring in the church at the time. Such use of the device, however, despite appearances, might be facilitating an engagement in their surroundings. By providing distraction or sensory support, the autistic child may, in fact, be listening or engaging in what is going on, even if they appear distracted or socially disengaged.

This suggests that a significant challenge in mobile technology acceptance in support of autistic children within churches could stem from limited recognition and awareness that the very inclusion of the autistic child may not appear as perhaps as expected. This may need to be a part of any educational strategies that might be deployed by the churches in order to inform clergy or congregations. One participant stated, "*we are going to start where you are and if starting where you are involves this, we'll do that. Um, where we might get to? Well, who knows?' Um... and... again, as you know, there are ways of involving people with different kinds of conditions on the spectrum. Um, there are, very slowly refin[ing] techniques that help with this. Don't rush it. Don't rush it. Just make the person welcome*" [Q4.33]. This comment represents and openness to inclusion and a strong motivation to make the autistic child feel welcome, but it also hints at an anticipation of what inclusion may look like. It is not clear that, if an autistic child is playing a game on a tablet as a means of managing sensory response, which allows them to engage in the Liturgy by listening and thinking, whether this will

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be understood and recognised by either the congregation or clergy. This is point should be considered because it is the clergy that will likely have a key role in shaping acceptance (see section 7.2). Conversely, another participant said that, through an educational talk by an autistic adult, he became aware that it was possible to underestimate people's preparedness and anticipation of their faith [Q6.29] and that there were many ways in which it is possible to get a feeling for someone's real appreciation for the presence of Christ in the Eucharist [Q6.1]. Another participant said;

> *"[We don't always know] how God's grace works. We are thinking other things. God's Grace may be doing other things..... So we don't know how God's Grace touches the hearts of people and we don't know how God's Grace will touch his child and this human being....,.So in that mind and in that heart of the child, there may be an active Grace of God. [..] Grace working in a different way. When you think 'Church' you can't think of logic all the time. You have to think outside the box of logic."* [Q5.8]

Such revelations in the data suggest that there is an openness to acceptance of inclusion appearing in many ways, but that this may need to be supported further through education, not just for congregations but also for clergy, too.

7.1.5   Inclusivity - Conclusion

The theme of **Inclusivity** is unique in that has a comparatively strong motivational influence on the acceptance of mobile technology by the UK Christian

community when it is used by autistic children in churches. As well as being a direct motivator in its own right, it may also serve as motivation for the consideration of some of the potential barriers to acceptance, such as suspicion of motivations of use during liturgical settings, challenges to traditional expectations or digital technologies over analogue.

The UK Christian community, as borne out by both the literature and the data, has a strong desire to be inclusive to autistic children and their families. This is of key relevance, not simply out of an obligation to 'do the right thing', but also to enrich the life of the Church. It may be that given the growing role of mobile technology in the lives of those with disabilities, including autism, a reconciliation with its use within churches may be of significant importance in establishing a longer-term vision of an inclusive community.

It was evident in the data that the participants had some understanding of autism and some of the challenges that can be experienced by autistic individuals in places of worship, particularly in relation to social interaction and sensory experiences [Q4.20][Q5.4]. There was also some suggestion of awareness of the impact on parents and caregivers and the importance of their inclusion, too [Q5.5], with one participant mentioning the issue of stigma for the families of children with disabilities that can be experienced, particularly with certain cultural contexts [Q5.1] [Q5.2]. This was also reflected in Pope Francis' call for an end to the stigmatisation of families of autistic children (see section 2.5.1) (Pope Francis 2014).

It is suggested that the theme of **Inclusivity** could help facilitate a discussion within the UK Christian community as to how mobile technology might not only benefit the autistic child but also enrich and facilitate the

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Community's own mission.

7.2   Role of Clergy

This theme represents the behaviour and attitudes of clerics/clergy within the UK Christian community and how they may influence the acceptance of mobile technology use within spiritual spaces, typically through guiding the behaviours and attitudes of other members of the Community. In the context of this influencing theme, the term '*clergy*' can refer to a priest, bishop, pastor or any other cleric of similar influence within the UK Christian community.

The UK Christian community consists of a significant array of diverse groups and sub-cultures (Statista.com 2014). Within each denomination, further differences in theologies, styles of churchmanship and practices can be observed. Consequently, by interviewing senior participants confined to the episcopate, the data provided a somewhat superficial insight into the realities of what happens at a grassroots level within the Christian Community. If parallels between the Church and the Higher Education sector were to be drawn, this study could be regarded as being akin to interviewing University Vice-Chancellors. It might be possible to get a sense of the values of the participant's respective institutions but would unlikely reveal the nuanced realities of the day-to-day operations within the various schools or departments, each of which is characterised by its own policies, cultures and politics. Nevertheless, the selected methodological approach afforded the opportunity, through deeper analysis, to reflect on some of the Christian Community's organisational features, cultures and traditions. There was an indication from each of the participants that suggested that it is the clergy

on the ground, such as parish priests, who would play a key role in shaping mobile technology acceptance within their own particular communities.

This section of the thesis, therefore, discusses how the role of the clergy may impact mobile technology acceptance when it is used by autistic children in churches or other Christian places of worship.

7.2.1 The use of mobile technology by clergy for their spiritual practice

It was evident from the data that emerged from the interviews that the use of mobile technology to support spiritual and prayerful practice is reasonably widespread amongst the clergy and that such use may be increasing [Q4.13] [Q6.12]. Participants reported using mobile devices with prayer or liturgical applications such as *Universalis* (Universalis Publishing Ltd 2012) to facilitate individual or group worship. It was of note, however, that shared practice was largely confined to events that occurred within the church organisation itself, e.g. clergy conferences or chapter meetings, rather than routine church services. Many priests are also using mobile devices to support individual prayer, including saying the Daily Office.

It is of note that such use was not always without hesitancy, however, including a reluctance on the part of older priests, for whom the auto-missal might represent a lack of discipline and tradition [Q6.13]. Traditionally, a priest would be expected to learn how to navigate it as part of their training. In other cases, however, such hesitancy did not appear to be understood, or there is a lack of awareness as to why it exists [Q4.14] [Q4.26]. There

was the suggestion, however, that there is no general sense of technophobia amongst the clergy [Q6.32] and this is demonstrated consistently across the interview data and in each of the denominations represented in this study. Two participants suggested that the numbers might have increased due to the COVID-19 pandemic [Q4.14] [Q6.34]. This is possibly related to the themes that are discussed in section 7.5 (Digital v Analogue) and are more reflective of societal anxieties around novel technologies, rather than about it being in religious settings.

The use of mobile technology on the part of the clergy does not seem to translate into acts of shared worship with the wider membership of the churches. The reasons for this in the data were not clear but are considered in section 7.7 and especially 7.7.1. This appears to be, in no small part, attributable to the need to preserve culture and tradition in some places of worship. This may be linked to the specific style of churchmanship or location of a particular parish or priest on the 'political and theological spectrum' of the denomination, e.g. traditional or liberal Anglicanism. Why clergy might be more inclined to use mobile technology to support religious practices over some congregational members is not entirely clear in the data. It is suggested, however, that this might be, in part, due to reinforcement through shared acts of technology-facilitated worship at Chapter or clergy conferences, where there is less perceived influence by people in positions of authority. This provides clergy with the opportunity to support its potential in a shared manner, as opposed to congregations who may feel more self-conscious.

7.2.2 Deference to clerics and Church Leadership

Many UK Christian denominations are characterised by clear hierarchies of leadership, with senior clerics having oversight over the pastoral and administrative aspects of their churches (Boggs and Fields 2010). In some cases, that senior leadership will also be responsible for the dissemination of doctrine, for example, the Pope as the supremely appointed bishop within the Roman Catholic Church.

It might be expected, then, that directives regarding the use of mobile technology will flow down from senior leadership in order to facilitate acceptance. Analysis of the data suggests, however, that in many cases, it will be the clergy at a parish and local level that will likely play the most prominent role in any shaping of mobile technology acceptance with congregations and membership, particularly in an assistive capacity.

In terms of the expectations of an impact of directives from senior clerics at a grassroots level, there was a marked difference in the views between those of the Eastern Orthodox participant to those of the Anglican and Roman Catholic participants. The Anglican participant, albeit somewhat facetiously, implied that he felt confident that he would have had minimal influence and that the clergy would be the key agents of change for how mobile technology would be accepted on a parish level [Q4.14]. The Orthodox participant, however, stated clearly that their authority would be important and that he is "*the boss*" [Q5.14]. One possible explanation for such different views can be found in Hofstede's Cultural Dimensions (Hofstede 2001).

Figure 7.3: Hofstede's Cultural Dimensions for UK (purple) and countries of origin for UK-based ethnocultural Orthodox Churches

(Hofstede Insights 2021)

Hofstede's cultural dimensions is based on his research into the cultural characteristics of IBM employees across 50 countries across the world. Originally based on four cultural dimensions, Hofstede later revised his model to include six dimensions; *Power Distance*, *Individualism*, *Masculinity*, *Uncertainty Avoidance*, *Long Term Orientation* and *Indulgence*. Power Distance represents the extent to which the less powerful members of organisations and institutions accept and expect that power is distributed more unequally (Hofstede and McCrae 2004). In the case of the UK, then, Figure 7.2 demonstrates that the UK has a lower power index than those countries of origin or dominance for the main Orthodox churches based in the UK (Greece, Russia and Egypt). This suggests, then, that some of the ethnoreligious churches

in the UK, such as the Orthodox churches, may be more likely to accept authority from clergy than other UK-based communities. Hofstede's cultural dimensions are further addressed in section 7.6.3.

In terms of deference to clergy, then, the demonstrated behaviours by clergy (best practice of use) and their direction for mobile technology acceptance might be more impactful in the Anglican or other UK-established churches.

7.2.3   The Role of Clergy in Raising Awareness

The important role that clergy can play in improving **Inclusivity** within their own parishes, along with helping shape mobile technology acceptance through informing members and through education, was a common theme that emerged in the data.

More broadly, the **Role of Clergy** in establishing a welcoming culture for those with disabilities such as autism was clear. One participant called on clergy to be, "*upfront and visible in changing kinds of reaction*" [Q4.16], while another suggested that he actively chose not to appear outwardly frustrated by disturbances in the congregation, particularly where children were concerned, and to convey a sense of happiness that they were there [Q6.15]. It was clear that a sense of responsibility was both placed by the senior participants on fellow members of the clergy but was also personally felt as priests in their own right.

At various points in the interviews, potential strategies for raising awareness of autism and the use of mobile technology to support autistic members

of the churches were discussed. Such approaches included raising awareness through the use of parish newsletters [Q6.9] [Q6.15] and talks from families of those with autism [Q6.15] [4.16]. Such strategies may work well, although talks from families, specifically, may need to be undertaken with caution as some families may already have concerns about stigma (Ryan 2010; Aubé et al. 2021) or may feel reluctant to speak out about their child's diagnosis or 'out' them publicly (Montaque, Dallos and McKenzie 2018).

The clergy may also play a role in facilitating a discussion regarding managing expectations and understanding of the congregation in terms of the behaviours and presentation of autistic children in churches. This was especially the case in relation to the optics of their mobile phone use:

> "*I still think that, amongst the congregation, we need to be aware of the danger of people jumping to conclusions and perhaps we ought to find ways of, um, alerting people that there are good ways of using phones and tablets and things.*" [Q6.13]

Another participant stated:

> "*So the priest needs to bring it to the attention of the congregation and enlighten them. And, also, this form of technology or whatever you are using, isn't only for one child, it's for all the children, whether they have challenges or not because each child is challenged in one way or another.*" [Q5.19]

Both of these quotations demonstrate the incumbent responsibility placed on the clergy in shaping acceptance. This went further, with participants

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suggesting that clergy would also need to raise awareness amongst the congregations about autism itself and to help create a sense of understanding regarding assumptions that might be made about an individual with autism, based on outward appearances [Q4.34] [Q4.35] [Q6.34]. It was suggested, however, that to what extent a congregation might respond to such measures could vary [Q6.5].

7.2.4 Role of Clergy - Conclusion

The data reveals a growing acceptance of mobile technology to support spiritual practise amongst the clergy. This appears to be confined to personal practice or shared worship, including conferences and Chapter gatherings. This suggests an increasing comfort amongst the clergy with the medium to support prayer and other acts of worship. These behaviours, however, do not necessarily translate to church services where congregations are present. Although the reasons for this are not entirely clear in this study, this may be due to theological thought around the Liturgy (see Section 7.3), tradition, a concern about optics or the perceptions and concerns of the congregation observing the service. It may also be attributed to the digital medium itself (see section 7.5.1) (Cross 2016). Regardless, the growing acceptance of mobile technology use within the clergy is perhaps an opportunity for such behaviours and attitudes to be shared with the congregation, either through the sharing of best practices, education or demonstration of use within the service. The use by a member of the clergy may initiate a dialogue amongst the wider congregation and membership. In a similar vein, from the data, it is clear that the clergy at a local level are likely to play a significant and instrumental role in helping foster a sense of understanding, welcoming and

inclusion for autistic children and their families as they are best placed to respond to the cultural nuances and specific needs of their parishes. In most cases, the influence of local clergy is likely to take precedence over that of the episcopate or other senior leaders. This is, in no small part, due to cultural factors within the UK where deference to power (power index), as modelled by Hofstede, is relatively low (35/100) (Hofstede Insights 2021).

7.3 Theological Thought

While this project is not a theological critique, inevitably, theological thought needs to be considered as part of this study, as it acts as an inspiration and ontological framework for the Community (UK Christianity) that has been explored as part of this study. This section of the thesis considers some of the theological thought that emerged during the interviews and connects those views to mirroring philosophical thought around the use of mobile technology, where appropriate.

It was clear from the interviews that theological thought, while certainly a feature, was not likely to be a direct determinant for the majority of clergy or congregations in shaping the acceptance of mobile technology when it is used by autistic children. Figure 7.1 demonstrates that **Theological Thought**, while not directly influencing the acceptance of mobile technology use by autistic children, appears to inform other emergent themes, including **Purpose of Use**, **Digital v Analogue** and **Individual and Community**. The data also suggests that it may more directly influence the behaviours and attitudes of the clergy (**Role of Clergy**) than the congregations and membership. The underlying prominence of theological thought might be ex-

plained because, like other forms of philosophical discussion, it evolves and is challenged by emerging issues in society, including the use of modern technology (Ellul 1986; Mountain 2011; Coeckelbergh 2020). It would appear that the theology of technology is a relatively new and emerging discipline that is evolving with the pace of new developments in modern technology (Prior 2020).

7.3.1 A God-Given Tool

The idea of co-creation as a theological stance, as argued by Hefner (2003), is briefly discussed in section 2.6.2. There was, however, no evidence of such views of humans and God as co-creators of technology. Based on the data, then, it seems unlikely that this would shape the acceptance of mobile technology in spiritual contexts in any significant way.

There was a suggestion, however, of the mobile computing device as being 'God-given':

> *"So, I see it as the development of technology as a God-given tool and it is for the child and it is also for the family and the parent, especially the mother, because a child, you know, has a different bond with the mother. The mother is also comfortable and relaxed because the child sits still."* - [Q5.5]

In this quote, mobile technology, despite its modernity, is framed as a positive opportunity for the Church to support the autistic child and their family.

7.3.2 The Logos

As part of the interview, the Anglican and Orthodox participants were presented with a quote by Eastern Orthodox Bishop Kallistos Ware to lead the conversation toward consideration of how mobile computing devices or software are made:

> *"Our human task as craftsmen or manufacturers is to discern this logos dwelling in each thing and to render it manifest; we seek not to dominate, but to co-operate."* - (Ware 1979, loc 419)

What ensued, however, was some complex theological thought that touched on other emergent themes, particularly **Inclusivity**, but especially that of **Purpose of Use**.

In the Christian Bible, John's Gospel (Chapter 1: Verse 1) "In the beginning was the Word, and the Word was with God and the Word was God", a reworking and translation of the first verse of Genesis, "In the beginning, God created the heavens and earth". This is also the first verse to appear in the Bible in its entirety (Pope Benedict XVI 2006). For Christianity as a religion, this concept of the Logos represents a key ontological premise. In Christian theology, the Word represents Jesus Christ. John's verse (1:1) describes the eternal nature of Jesus ("In the beginning was the Word") and that Jesus is of the same essence of God ("The Word was God"), but that Jesus is God and yet somehow distinct ("And the Word was with God"). This is developed further with John (Chapter 1: Verse 14), "And the Word was made flesh, and dwelt among us." Jesus came to Earth to live amongst humans (Christianity.com 2021).

The use of a concept of the logos (Λόγος) is not, however, confined to Christian theology. Meaning 'word' or 'reason', the use of logos also represents an ancient philosophical concept that dates back to around 500 BC. Notably, Heraclitus, whose arguably Gnostic interpretation of the Logos was common and available to all those who would attend to the way of the world (Graham 2019).

Pope Benedict XVI (2006), in his address at the University of Regensburg, discussed the synthesis of Greek philosophical thought and Christian theology. He suggested that the 'toilsome' threads of theological thought regarding the Logos can be simplified and made accessible through a synthesis rooted in the understanding of the dual meaning of the word 'logos' - both word and *reason*. In the address Pope Benedict went on to say that God acts "σύν λόγω" (with logos) - "a reason which is creative and capable of self-communication, precisely as reason" (ibid.).

While the quote of Bishop Ware was initially offered to see if it would spark discussion and dialogue around the creation of apps or mobile technology with the idea of it being used within Christian contexts, the response was markedly different:

> *"the 'Logos' element is not just something self-contained, it's something that flows into the life of other things and makes everything more itself by connecting, by Communion. ..."So how does any kind of technology actually facilitate real Communion between people and how does it facilitate a just and constructive attitude to the rest of the physical environment?"* - [Q4.30]

Here, the theology of the Logos is linked to the emergent theme of **Pur-**

pose of Use. The question that appears to be posed is, "why is the technology being used, and what does it achieve?" Even when considering the use of mobile technology in an assistive capacity within churches, the justification of use, for some within the Christian Community, maybe deeper than a superficial intention of use. Facilitating a Communion of people with the Logos demands careful consideration, which is well outside the scope of this study but suggests to the domain of technology an imperative for cultural sensitivity within religious and spiritual contexts.

> *"So, you know, you could look at the whole question of technological solutions in the environmental movement. It's not that technology is the enemy, it's just that you have to discover a technology that works for, not against ecological balance. And, you know, occasionally, I think, the wind farm is not a bad example of that. So, that would be one example of how you can apply that idea of what human craftsmanship is like to the technological world... in this context."* [Q4.30]

It is of note that the participant draws on the example of the wind farm, a modern-day windmill, as an example of a technology that demonstrates a benevolence towards the environment in which it is situated. The windmill is often cited as a Heideggerian example of traditional technology that works in a more harmonious way with nature, as opposed to Modern technology, which extracts and stores energy from its environment (Wheeler 2011; Coeckelbergh 2020).

Modern technology was perhaps portrayed by Heidegger as a threat, with the re-framing of natural resources, including people, as a consequence of

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capitalist greed (Coeckelbergh 2020). Whether such associations would prejudice the use of mobile technology by users within churches is not clear from the data. The ecology highlighted in the participant's answer, however, hints at a potential framework for cultural sensitivity in producing and deploying mobile technology. The adoption of mobile technology, in an assistive capacity or otherwise, will ideally preserve the 'ecology' of the planet (being good custodians of nature as an important aspect of Christian expression of faith (Revkin 2014), the 'ecology' of the Community of the church and the 'ecology' of true Communion with the Logos. Where the emergent theme of **Purpose of Use** (of mobile technology use) meets with reason (logos), it is a reason that extends beyond mathematical thought and provides a foundation and guarantee of the good (Ratzinger 2004).

7.3.3   Poeisis of Fellowship

In Heidegger's philosophy of technology, the concept of *poiesis*, which is based on the Aristotlean concept of poiesis, represents a bringing forth of something through the meeting of both craftsmanship and the potential in physical materials (Wheeler 2011). For example, a silversmith might shape silver to form a chalice. The potential for a chalice always existed because the silver was there, but it was the silversmith's sense of craftsmanship that brought forth (revealed) such potential. Modern technology, however, draws on a more scientific understanding of how resources can be exploited to create newer technologies (Coeckelbergh 2020). Perhaps without a true sense of fidelity to Heidegger's views, it might be argued that the spirituality of the autistic child has always been there, but the use of a mobile computing device, despite its modernity, could serve as a revealing of that. It is not

a revelation to the autistic child of their own spirituality but a revealing of a wider fellowship to the Church. The challenge is, however, that it may not be in a form that is outwardly recognisable to other members of the church [Q5.8, 6.2], but, nonetheless, a fellowship that is desirable. This perhaps emphasises, again, the importance of sensitive technological design and integration, along with a reflection on **Purpose of Use** and production.

Theology and Philosophy

Where parallels are drawn between theological and philosophical thought, Coeckelbergh (2020) argues that, despite the prevalence of technology in the lives of people, paradoxically, it is not often considered on a philosophical level. It might be expected, then, that deep theological consideration is far more likely to be confined to clerics and the episcopate, who are most likely to have undertaken theological and philosophical training. Indeed, the participants in this study had all studied and taught theology and philosophy in prominent colleges and seminaries. It is also the senior levels of the Church hierarchy where policy decisions tend to be made. Such views, when communicated with the authority of the Church, maybe rightly or wrongly be interpreted by the membership as decrees of doctrine.

It is important to acknowledge, however, that central teachings and directions from within a particular denomination may have different interpretations in terms of practice at a local and parish level. This is discussed in section 7.2 (**Role of Clergy**). Indeed, Macaskill (2019) states that interpretation of theology and the Bible may also be shaped by local communities (**Individual and Community**) and, again, this emphasises the need for

further research at a grassroots level in order to gain a more nuanced understanding of the variations in attitudes to the acceptance of mobile technology.

Building on the issues of recognising inclusion, as discussed in section7.1.4, in Hills, Clapton et al. (2019), a nonverbal autistic participant, when asked about the use of language, especially metaphors that are used in religious contexts, described her unique ability to conceptualise her environment:

> "*One can't see the same answer if one is in a culture where a religion is practices formally by the whole population, but in my case I think in flashes of color and space so my perception of my links with something that is greater than me and core to existence must be different from the way that speaking people are limited by the restriction of language and being in a social group.*" (Interview 1) (ibid., p. 380)

This research suggests that presence, physically or spiritually, in the case of autistic children may not appear as other members of the church community might expect. The unique relationship that autistic individuals may have with their spirituality and religious expression needs to be considered. What might outwardly appear as disengagement or unusual behaviours may, in fact, be the true optics of a shared communion that the Church is actively seeking. By extension, then, in the case of an autistic child using a mobile computing device, either as a tool for spiritual engagement and expression or as a device to help them be present in a church environment, that same understanding may need to apply.

There are, perhaps, parallels between the esoteric nature of faith and the mind of an autistic child to an observer. The assumption of the purpose of

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use of the device and expression of faith through the use of mobile technology may not be recognisable to the wider membership. Hauerwas (2005) argued that the Christian imagination acknowledges that the world is different from what it seems. He suggested that, although existence in a world without a creator, where the only human imperative is survival, is perhaps easier, this is not what the Christian Community is unified by. In terms of trust and acceptance, then, where mobile technology facilitates inclusion and unity within the UK Christian community, a similar 'leap of faith' is perhaps called for. This is particularly important for trust where **Purpose of Use** may not be immediately apparent to others in the place of worship.

Such trust and acceptance are challenged, however, in the public eye when images such as those of Steve Cutts (Figure 7.1) are considered. Such imagery suggests that mobile technology represents the enslavement of our humanity rather than its liberation.

Figure 7.4: Artwork by Steve Cutts

Macaskill (2019) described a number of Christian websites where the

symptoms of autism were compared to demonic possession and the increasing prevalence of autism was argued to be a consequence of increased demon presence in modern society. While such thoughts were in no way voiced within any of the interviews, that such views exist within small groups may prove problematic to the acceptance of the use of mobile technology by autistic children in such settings, where it may be interpreted through the lens of zombification.

7.3.4 Idolatry and Distraction

Hashim, Yussof and Bahrin (2017) (see section 2.6.2) found that one the central concerns regarding the acceptance of robotic technology in religious settings to support autistic children was that of idolatry. The study, however, was based on Islam rather than Christianity. With a view to exploring any potential concerns regarding idolatry or the encroachment of technology on religious expression, the quote was shared;

> "Technology, per se, does not assault the gospel but a technological society will find the gospel irrelevant."

(Wells 1995, p. 12)

One participant responded by re-framing the quote as technology being a "good servant and a bad master" [Q4.1]. He suggested that the problem would arise where people assumed that all problems could be resolved through technological solutions. As was consistent in the interviews, the idea of *why* the technology was being used and for what purpose it was serving,

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was of importance [**Purpose of Use**]. Another participant said that, where the Bible talks of not worshipping other gods, what it is talking about at a fundamental level was not to look for salvation elsewhere other than God. It is important, the participant said, that people don't place all hope in technology and not God.

Broadly speaking, however, the issue of idolatry was not a significant concern and distraction seemed to dominate such concerns [**Purpose of Use**].

7.3.5   Theological Thought - Conclusion

Theological thought plays a hugely significant part of the UK Christian community's ontological framework. It influences the community's views and attitudes towards those with disabilities and technology and the desire to be inclusive of all people. It seems inevitable, then, that it would form some part in shaping the acceptance of mobile technology in an assistive capacity within spiritual spaces. While important threads of theological thought emerged in the data, most notably around the motivations for adopting assistive technology (to be inclusive), the theology of the Logos and avoidance of idolatry or, perhaps, more importantly, distraction, there was little suggestion that the theology of technology in its most explicit sense would have a significant or direct impact on the congregational acceptance of mobile technology in an assistive capacity. In other words, the theology of technology, as influenced by notable bodies of work such as Ellul and Heidegger, did not explicitly emerge in the data.

Instead, theological thought is more likely to be a theme in guiding the

views and behaviours of the clergy over those of the congregation. Theological thought permeates all of the themes identified in this study as it is part of the ontological framework that informs all aspects of Christian life within the Church. This is indicated in Figure 7.1 where Theological Thought informs all other themes and motivates a desire to be inclusive.

Where theology and philosophy share common characteristic is that they provide ontological frameworks that shape thoughts and attitudes. Consequently, theological thought, while it may not directly influence the acceptance of mobile technology, within the context of the Community, could be seen to permeate all other themes.

7.4   Purpose of Use

Broadly, the interviews with each of the participants suggested that, certainly from a personal perspective, there was a broad willingness to accept the use of mobile technology in churches by autistic children, including within liturgical settings. Despite this acceptance, however, there were also suggestions that the acceptance of such use would not be without caveats. This, in itself, suggests some apprehension about the widespread of adoption of mobile technology, even by those who might consider themselves open to the use of technology. One participant, for example, explicitly stated that he would be against adults and, perhaps, older children engaging in the use of mobile devices within the church, for fear of them becoming distracted by social media and emails [Q5.3]. He suggested that this would be more likely to happen with users who have "*other skills, abilities and knowledge.*" It is perhaps of note that the participant used the term, "temptation enters" in

relation to the distraction occurring. The use of such terminology as adopted by the participant could be considered quite emotive, and the description of temptation *entering* may suggest external agency. More frivolous potential uses of mobile technology were also identified by the participants, such as using devices for entertainment [Q4.4] or playing games [Q6.7] [Q4.8]. This suggested that even where an autistic child might engage in games, there may be a potential for such use to be interpreted less favourably.

7.4.1 Hidden Functionality and Anxiety

One of the benefits of mobile technology use in an assistive capacity is that it is prominent in use amongst the wider population. This means it is affordable but also discrete. It is not always easy for the observer, however, to be able to see what activities the user is engaging in. Unlike many other everyday settings that the autistic child may encounter, churches are places where communal worship and fellowship are a priority (see section 7.6) and, consequently, there are certain behavioural expectations. There may be a risk of suspicion regarding the use on the part of others or the discretion of use may be interpreted more as esotericism, particularly where there are cultural concerns regarding the use of such technology. These concerns are addressed in more detail in section 7.5.2.

7.4.2 Visible Authorisation of Use

It may be beneficial for churches to consider having their own tablet devices that can be issued within churches in a similar way to prayer books. This

could perhaps be marked with a sticker or covers that imply a sense of author-ised use to the user and, thus, reassurance that the user is engaging with the device with permission. Where this extends beyond budgetary constraints, stickers may represent a more affordable option. Such measures, however, do not negate the need for education and informed membership.

The idea of an iPad cover was put forward by the interviewer and, while met favourably by one participant [Q6.1], while another participant suggested that it could be a way forward, but that it did not replace the need for education and raising of awareness and educating members of the church [Q4.12].

7.4.3 Purpose of Use - Conclusion

It was clear from the interviews that the purpose of use of mobile technology was important to the Community. If this study were to include a local or parish-level exploration, it might be anticipated that there would be consider-able variations in attitudes towards the use of mobile technology in spiritual settings. This would possibly be reflective of parish culture, churchmanship or beliefs. This study, however, revealed a suggestion that, while mobile technology use would be accepted, especially with the motivation to support autistic children, it would not be without caveats. It was clear from some of the data, particularly within the Eastern Orthodox Church, that such ac-ceptance might not be readily extended to all members of the congregation due to the risk of distraction from emails and other social media applications [Q5.3].

7.5   Digital v Analogue

Digital v Analogue refers to the comparisons in practices and preference between digital and analogue technology use within spiritual settings.

The data collected during the study seems to suggest that there are distinctions in perceptions towards both analogue and digital technologies. The boundaries of such distinctions, however, were not clear, nor were the reasons for such perspectives, as acknowledged in Q4.6, "*... I'm not sure it's at all reasonable but it's certainly there, but I don't quite see what it rests on.*".

This section of the thesis, then, explores some of the attitudes towards digital technology that appeared in the data, along with consideration as to how these might shape mobile technology acceptance in churches.

7.5.1   Digital and Traditional Books

The use of books, including hymn books and prayer books, to support worship is a common feature in UK churches. Mobile applications do exist to replicate the purpose of such books, including the Roman Catholic Church's *Universalis* (Universalis Publishing Ltd 2012). The COVID-19 pandemic, despite seeing the removal or limitation on numbers of physical copies of prayer books for safety reasons (UK Government 2021), does not appear to have resulted in a significant increase in the use of digital books amongst the congregation in many churches. This may, in part, be due to denominations included in this study having a familiar and consistent approach to the Liturgy and Mass most weeks. As a consequence, many of the congregation are likely to be familiar with prayers and responses without the need to resort

to mobile applications to replace physical books. It could, however, represent a particular hesitancy towards mobile technology use within such settings. As this study did not include the views of the laity within the UK Christian community, it is not possible to establish their views, but this could present an opportunity for further research.

One participant bemoaned his experiences of recommending books for people to read, only to be asked if the book is available on Kindle. The participant went on to say that he would encourage them to obtain a physical copy of the book so that they could engage with it as a physical artefact, urging them to, "*Hold it. Feel what it's like. You know, there's more to it than just the words on the page. Even smell the book. The paper!*" [Q5.22]. He then went on to suggest that the use of a Kindle risked technology addiction in itself.

Such a perception is not confined to the Christian Community, however. Indeed, Figure 7.5 shows an image of a colourful individual holding a book as he descends on an escalator, while contrasted with darkened 'zombie-like' figures, apparently staring at their mobile devices. This is similar in tone to the example of the 'zombie image' (Figure 7.4 in section 7.3.2 of this chapter.

Figure 7.5: Analogue v Digital - Source: Aqueel Mehar)

Whilst there is no clear indication in this image what the purpose of the use of the mobile phone is for each of the individuals represented, there is a suggestion that the digital device users are a collective, representing the brainwashed masses, addicted to their screens, whilst the book reader is one of the last bastions of humanity and intellect. There are perceived 'wholesome' characteristics associated with physical books that are not generally attributed to the digital equivalent. Such views appeared to be reflected in the interviews to varying extents [Q4.14] [Q5.22] [Q6.7].

In one interview, even where there was an apparent broad acceptance of the use of digital books to support spiritual practice, such as following the Mass or saying prayers, the participant stated that they had "*given up*"

[Q4.14] and started to use a tablet for the Daily Office. This suggested an almost subliminal sense of fighting the inevitable replacement of the physical book by the mobile device. This hesitancy was not apparently noted by the participant, but perhaps an honest response.

Whilst this research is not an exploration of the use of physical versus digital books, the comments that emerged in the data around this topic provided an interesting demonstration of possible attitudes towards digital mobile technology acceptance within the Community.

Many UK churches have a strong sense of tradition. The very orthodox nature of religion in itself holds part of its appeal to many of the members. As a consequence, developments in religious practice, particularly within liturgical settings, may cause concern for some members of the congregations and clergy.

It was of note in the analysis that clergy are more likely to be engaged in the use of mobile technology within certain spiritual practices but less so in others. Each participant gave an indication that there was relatively widespread use of mobile devices amongst the clergy [Q5.13; Q6.12] during prayers at church conferences, during travel and in saying the Daily Office [Q4.14]. There was little suggestion, however, that such devices and applications were being used during liturgical settings on a regular basis within the churches, however. In other words, outside of the churches, clergy appeared to be much more likely to use mobile devices and applications such as *Universalis* to engage in spiritual activities. The reasons for this were unclear but it is suggested that this may, in part, be due to adherence to tradition within the Mass or Liturgy.

An article in the Church Times, an independent UK-based Anglican weekly publication, suggested that many clergy at the time of writing, surveyed the views of a number of the clergy regarding the use of iPads during the liturgy (Cross 2016). There was some suggestion that, while clergy would use such mobile devices for the Daily Office, there would be a reluctance to transition that use into the Eucharistic Mass. The ornate covering of the book, often with a symbolic representation of the Four Evangelists, was a high point in the Liturgy. To lift a tablet computer and give it a ceremonial kiss was felt to be inappropriate. Another participant suggested that they were against the 'Kindleisation of the Word' and that the printed book represented a more stable account of the Gospel. Another respondent, however, stated that they had no issue with reading the Gospel from the tablet and kissing it, as it was the words that were being engaged with and not the medium. While it cannot be ascertained from the article, it may be that the various respondents were from different traditions within the Anglican Church.

Given the importance of tradition to many Christians, the modernity of digital mobile technology use within spiritual spaces, may be interpreted by some as a threat to such tradition. This was evidenced in the data, where it was suggested that widespread use of mobile technology risked making the church look more 'corporate' and that it might be perceived as, "just another nail in coffin of good, old-fashioned religion." [Q4.26].

7.5.2 Digital Distraction v Traditional Distraction

In some churches, Sunday Schools may run concurrently with the service and so, in such cases, children are removed for part of the Mass or Liturgy. This do not seem to be the preferred option by the participants, however. This was either explicitly stated or suggested with terms such as '*hiving off*" the children to Sunday School. When children are kept in the church for the service, however, it is not uncommon for them to be given activities, quiet games or books during the service. This is usually done by the parents, although there may be some activities in place that have been provided by the church itself. This may be viewed as a means of minimising disruptive behaviour, to keep them comfortable or to relieve potential boredom, particularly during lengthy services. Such use of distractions are typically accepted by the wider congregation as something mutually beneficial in terms of minimising the risk of disruption to the service.

There were suggestions within the interview data, however, that the use of a mobile device for similar purposes, including game playing or for any means of distraction would likely not be so favourably received by the wider congregation. This was, in part, attributed to a lack of ability to see what the user was doing on the device. With a physical toy or book, there is a reassurance to the observer that they can see how the child is being distracted. This may be, in some part, due to the importance of a strong social dynamic within the churches.

7.5.3 Familiarity and Prejudice

In the case of adopting the use of mobile technology in Christian spiritual settings, the novelty of such devices was suggested as a reason why there might be a hesitancy regarding its use, particularly in liturgical settings [Q4.25]. The participant suggested that a "*sheer unfamiliarity*" with the use of such digital technologies might contribute to any sense of reticence by members of the Community, but that this was now being challenged by the COVID-19 pandemic. In a similar vein, another participant suggested that prejudice against mobile device, or any other form of computer, may be based on assumptions of why it might be used [Q6.18]. Comparing his own father's views of computer use, he suggested that the father of (Saint) Thomas Aquinas', a Dominican Friar and prominent philosopher, might have observed him writing all day and complained similarly. The age of congregation members was also cited as a factor by one participant, who suggested that a process of familiarisation and education was required, where elderly members of the congregation engage with basic mobile devices, as opposed to smartphones with the wide array of potential uses [Q5.6]. There appears to be a broad understanding of what technology is, or, at least, an instinctive discrimination in what 'counts' as technology - "The thing is, we often don't know how much technology we are already using" [Q4.37]. Another participant made reference to the inclusion of microphones in church, which benefit many in the congregations by allowing them to hear. He made the point that they do not appear in any religious imagery such as paintings or icons, but that are fairly readily accepted. This may be because it is a shared benefit, which, at least superficially, contrasts with mobile technology which may only be perceived to benefit the user directly.

7.5.4 Digital v Analogue - Conclusion

The reasons for the differences in the way digital and analogue devices are perceived within the Christian Community are likely to be multi-factorial. The reasons are not entirely clear from the data alone and warrant further exploration through engagement with clerics and the congregations. It is apparent from the data, however, that while religious or theological thought may play a part in shaping perceptions of the use of mobile technology in liturgical settings, societal perceptions are likely to play a greater part [Q4.18] [Q5.6]. It appears that some of the hesitancy towards digital technologies as identified in the data, appears to be largely reflective of wider societal attitudes and hesitancy that may be a result of digital and mobile technology being relative novel.

7.6 Individual and Community

Individual and Community as a theme is about the individual and communal needs and expectations of the churches and acts of worship. Church attendance and participation in shared worship can be motivated by a number of factors. A study by Francis, Robbins and Murray (2010) of UK-based Anglicans, these can include, but are not limited to; to deepen a relationship with and feel close to God, spiritual motivations, to enjoy a pleasant social activity, establish oneself in a community and obtain personal support. The individual and communal needs from events of worship are likely to change over time and may be influenced by a number of either intrinsic or extrinsic factors.

7.6.1 Variations in Group Culture

There are variations in styles of churchmanship and worship within parishes that may present different challenges to autistic children and their families. It may be that some churches have a much more informal style of Liturgy but that, for an autistic person, this may present challenges related to unpredictability or sensory issues around the style and volume of music [Q4.19]. Where a church follows a more traditional approach to the Liturgy this may, although not exclusively, be characterised by a stronger sense of tradition amongst the congregation. Such adherence to tradition may increase hesitancy to accept mobile technology use but, conversely, the rhythmic and repetitious nature of the Liturgy may provide reassurance and reduce anxiety.

It was not clear, from the data, if there was any likelihood that parishes might modify or compromise their traditions to accommodate the use of mobile technology, although neither was there any suggestion in the data that this would be needed. In a personal communication from another member of the clergy (Fitzpatrick, P 2021)(see Appendix D), suggested that some cross-ecumenical worship settings take a different theological view of technology and that technology, combined with simpler forms of worship, are seen as evidence of the Holy Spirit working His purpose out in the human experience. Such views, whilst not exactly aligning, echo some of the views outlined in section 7.3.1 regarding technology being a God-given tool.

7.6.2 The Church as a Home

One participant talked about the home being a holy place [Q6.6]. He went on to describe how life at home can be a messy place and, at times, not always perfectly tidy. He highlighted the parallels with the Church and how such human character forms part of the prayer, where there is an acceptance that God can be with people in circumstances that perhaps do not, on the surface, appear to be spiritual or ideal. He stated that individual members of the church can attend services with personal expectations of an aesthetic of the liturgical setting, along with individualistic apprehensions of spiritual expression that may be disrupted within a group environment [Q6.4]. The use of mobile technology may disrupt the aesthetic of the church and can be a potential source of disruption or annoyance.

The parallel between the *messy aesthetic of worship* and the *messy home*, while somewhat based in **Theological Thought**, perhaps provides a potentially useful lens or framing for the observer, in terms of accepting the autistic child using a mobile device in a spiritual setting, even if the **Purpose of Use** is perceived to be somewhat frivolous. While the individual member of the church may bring their personal needs to the church when they attend, along with their own expectation and anticipation of the service, the *family metaphor* can be extended to understand that such needs tend to fit in with the group's needs and dynamic.

7.6.3 Ethnnoreligious Churches and Culture

Figure 7.2, the UK cultural dimensions (Hofstede and McCrae 2004; Hofstede Insights 2021) as compared with other countries where Orthodox religion is prominent. In addition to a relatively low Power-Index, as discussed in section 7.2.2, the UK also has a notably higher Individualism score. According to Hofstede and McCrae (2004), Individualism represents the degree to which individuals are integrated into groups. In individualist societies such as the UK, it is anticipated that each member of the group will be largely responsible for looking out for their own needs and those of their families. Conversely, more cohesive groups will often form in societies with a low individualism score.

Ethnic cultures within certain churches may possess a significant sense of adherence to culture and tradition, meaning that there could be an increased resistance to change. This may especially be the case in ethnoreligious denominations, such as the Russian or Greek Orthodox Churches, where the churches serve, not only as a place for religious expression, but also for sharing of shared culture and Community. The Orthodox participant mentioned a hesitancy towards the inclusion of more English language within the Liturgy and talked about an adherence to being "Culturally Orthodox". The participant made the point that, by changing the use of different languages within the church, it was also a means to widen participation. This might especially be the case where younger members of mutli-generational families based in the UK may have felt excluded by the use of languages that they do not speak [Q5.15][Q5.17]. He discussed a resistance to such change, however, as congregations in such churches often feel a strong sense of dependency on churches as organisations that help preserve a particular ethnic culture

amongst the diaspora. Such views are borne out by Figure 7.2, where relatively high Uncertainty Avoidance scores, along with low Individualism scores are seen in Orthodox countries, as opposed to the UK (Hofstede and McCrae 2004).

Despite the various church communities being based in the UK and a relative unity in theological and spiritual beliefs and desires, in churches with high numbers of diaspora, it might be expected to see national or ethnic culture of origin playing out in cultures. Indeed, later research conducted by Minkov and Hofstede (2014), based on further analysis of cultural data, showed that national influence is of much stronger influence than global religious. The authors are argued, however, that there is a homogenising of values where nominally different religious groups live within a single nation. It can be anticipated, then, that, even in the case of ethnoreligious churches like the Orthodox churches, it might be anticipated that there will different scores for Hofstede's cultural dimensions to that of the origin of country. In other words, being in the UK will likely play a role in influencing culture within parishes.

7.6.4   Individual and Community - Summary

Within the UK Christian community, there are number of different denominations which may be characterised by units of different sub-cultures that are shaped by many factors, including demographics, theological interpretation, traditions and the make-up of the Community. Such diversity cannot be captured in this exploratory study in detail but the participants gave a broad oversight of some of the cultural and organisational challenged that could be

faced in shaping mobile technology acceptance. Ethnoreligious churches may experience different attitudes, although these are likely to be limited.

Where parallels between the Church and the home were drawn, the home serves as a useful metaphor for the complex dynamic of groups of worshipers who have individual spiritual needs but who must share the physical space with others, whilst accepting that compromise might be required. In the case of mobile technology acceptance, the individual or community's needs for a particular experience or aesthetic in their church or worship, could present a challenge.

7.7   Summary of Chapter

The outcome of the analysis conducted as part of this research is that there are six emergent themes from the data that are considered influential in shaping mobile technology acceptance by the UK Christian community when it is used by autistic children in spiritual settings. These include; *Inclusivity*, *Purpose of Use*, *Theological Thought*, *Role of Clergy*, *Digital v Analogue* and *Individual and Community*. While each of these themes represent potential barriers and motivations for mobile technology acceptance, **Inclusivity** is perhaps the most significant motivating theme in that the UK Christian community has a strong desire to be inclusive, indeed, welcoming to all people, regardless of disability. This includes children with autism. Consequently, it is perhaps the key motivator for the Community to reflect and consider the opportunities that mobile technology represents, while motivating discussion around some of the challenges within the Community that such use can present.

While these themes are broad, they could serve as a useful springboard for further research into a more detailed and nuanced understanding of the various ecclesiastical cultures that exist at a grassroots level. The data in this study has been gathered from a senior or 'top-level' of the UK Christian community with limited representation from the three denominations included. Given that this is exploratory research, further surveying of the views of clergy and congregations, may reveal are more detailed picture of the themes shaping technology acceptance when used by autistic children in churches and other places of Christian worship.

Chapter 8

Conclusion

*"And yes, we are far from polished, far from pristine, but that
doesn't mean we are striving to form a union that is perfect. We
are striving to forge our union with purpose. To compose a coun-
try committed to all cultures, colors, characters, and conditions
of man."*

The Hill We Climb, Amanda Gorman, 20 January, 2021

This chapter outlines the main outcomes of this research while identi-
fying limitations of the project, possible directions for future research and
some recommendations to the UK Christian Community when considering
the acceptance of mobile technology by autistic children and their families.

The acceptance of mobile technology use by autistic children and their
families within the context of the UK Christian church is not just a story
of user acceptance on the basis of purpose. It also challenges a number of
cultural, traditional, philosophical and theological issues within the Chris-

tian community and brings about an opportunity for reflection on the wider relationship with digital technology. In many ways, these mirror the ethical and sociological challenges that are presented to wider society by novel developments in technology. Within the context of spiritual and theological belief systems, however, those challenges are, perhaps, particularly profound. This thesis may be viewed, then, as a body of work that asks more questions than it answers, but it is hoped that it can contribute to a wider discussion and reflection on how digital technology is used within religious places and how it might be used with a greater sense of confidence. Where those users are autistic children, greater acceptance of mobile technology use may, in turn, help the Christian community in achieving the very goal of inclusion that is considered of significant importance.

Reflection on the barriers to the integration of autistic people in churches and their mobile technology use can be an important part of the Church's ongoing reflections on how Her practices may be potentially harmful (Macaskill 2019). It is hoped, then, that this research will serve as a relatively early, albeit small, contribution to such a body of work.

8.1 Conclusions of Research

As a result of the analysis, a number of themes that can influence the acceptance of mobile technology use by the UK Christian community when it is used by autistic children have been identified. The identification of these themes represents the **original contribution to knowledge** of this doctoral research. These themes are not likely to be exclusive and, with further research (see section 8.4), this understanding will evolve, and greater clarity

will be achieved. It is hoped that this research can serve as a kernel for further dialogue, which could lead to an increased understanding and awareness of the potential for mobile technology to facilitate the inclusion of autistic children and their families in spiritual spaces, along with the barriers and opportunities that exist around its acceptance. The emergent themes, which represent the themes shaping acceptance of mobile technology when used by autistic children in Christian religious spaces, are:

Inclusivity

The Christian Community in the UK has a strong desire to be inclusive of all people, including children on the autism spectrum. This is shown in the corpus of literature regarding Christian theology, including the theology of disability. It was also a prominent feature of the data captured during the interviews. In the case of mobile technology acceptance, when used by autistic children in religious spaces, the desire to be inclusive appears to be a key motivator to address any potential barriers that may exist to acceptance. The research also shows, however, that human factors may counter such inclusion through attitudes and behaviours, particularly in relation to subconscious bias against digital technologies and adherence to tradition. Consequently, the Christian ontological framework that influences the community's teachings and policies cannot be depended upon exclusively.

This theme shows some level of distinction from the others in that it appears to be a key motivator for reflection and change within the community.

Purpose of Use

The use of mobile technology by autistic children was generally supported, particularly where it supports their inclusion within the Christian community and liturgical settings. It did not appear to matter whether the autistic child would engage with the technology for play or for therapeutic purposes. The acceptance of mobile technology use, more broadly, however, was not without caveats and some groups within the Christian community may have concerns. These were found to be largely around the risk of distraction or disruptive behaviours by the user, along with some theological issues around vanity, idolatry or 'seeking salvation in places other than God.' Even where the use of mobile technology is to support liturgical interaction, there is a certain dependency on trust that it is being used for its intended purpose.

Theological Thought

The theology around technology use specifically does not appear to be a direct determinant of mobile technology acceptance in supporting autistic children. There was no real reference made by the participants to the theology of technology itself. Instead, the data revealed that, whilst theological thought influences all of the themes as a key motivator and influence of Christian practice, it has a more implicit link to other emergent themes, including **Inclusivity** - the desire to be inclusive of all people within the community. Theological thought also played some role in determining what might be acceptable reasons for use (**Purpose of Use**). It was also found to inform and motivate the **Role of Clergy**, perhaps more so than most of the membership, who will have typically, although not always, received less formal

theological instruction. Clergy are also likely to regularly engage in theological reflection through their pastoral and spiritual leadership. There is some suggestion that software and technology design that is mindful of a religion's theology and spirituality could play some part in shaping acceptance, and software engineering practices might consider this during the software design and implementation processes.

Digital v Analogue

There is a difference in the perception of the participants between digital technology, such as smartphones and tablet computers, as compared with analogue objects such as books and some toys. The use of analogue objects, even when a child is engaged with them as a means of distraction, was more readily accepted in liturgical settings. While the reasons for such distinctions were not entirely explained in this research, the analysis suggests that analogue devices were regarded as more wholesome and that digital technology represents a risk of distraction, either practically or spiritually. In turn, this could undermine community engagement, which poses an additional risk.

Individual and Community

While this research explores the UK Christian community in a holistic context, it does give some consideration to different denominations within the community. Even within each denomination, however, there are considerable variations in cultural attitudes, adherence to practice, different styles of churchmanship and theological thought. The needs and characteristic of each local group emerged as a key consideration in how technology use might

be accepted, including in support of autistic children. The dichotomy of individual prayer and shared spiritual practice in liturgical settings, along with expectations, needs, hopes and desires of worship events, can also contribute to acceptance, where the use of digital technology might be seen to undermine tradition or community.

Role of Clergy

Given the considerable cultural variations within the UK Christian community and the nuanced realities of individuals and local groups or parishes, the analysis showed that the role of clergy at a grassroots level is viewed by the senior clerics as key in shaping the acceptance of mobile technology amongst the membership. While there was some denominational variation, UK cultural factors, particularly in relation to around power-distance, were prominent in the data showing that directives from central leadership were unlikely to have a significant impact in shaping acceptance in itself. Instead, change was more likely to be brought about by local clerics. This is most likely to be achieved through raising awareness, supporting behaviours, supporting cultural change and through demonstrating of good practice.

8.2   Limitations of the Research

This section outlines some of the key limitations of the research undertaken.

8.2.1 Sample Size

Whilst sample sizes associated with interpretive phenomenological analysis tend to be small (J. Smith, Flowers and Larkin 2009), it had been hoped that a fourth participant from one other denomination could have been recruited to this study. Given the seniority of those who were approached for interviews, however, it was difficult to secure time with senior clerics in the different denominations. This was, at least in part, due to constraints on their time as they worked through the COVID-19 pandemic. It would have been interesting to gain insight from the Methodist and Baptist Churches, for example, who were unavailable to participate due to demands on their time due to the pandemic. It is important to note, however, that generalisability is not typically a feature or goal of interpretive phenomenological studies (Peoples 2021). While a further interview, preferably two (J. Smith, Flowers and Larkin 2009) with a different denomination was pursued, it is not anticipated that this would have significantly altered the results, as a commonality between the interviews emerged fairly early in the analysis process. Further research in this area would confirm this, however.

8.2.2 Range of Potential Needs

When considering children on the autism spectrum, this may include people up until the age of eighteen years of age. With a cohort of this size of autistic children, this spread of ages represents a vast range of individual support needs that will likely shape the way that mobile technology is used or how its use is perceived by others. For example, a non-verbal young child using a mobile tablet to support communication via the use of PECS software might

be perceived very differently to a child who is in their teenage years, able to speak but dependent on a table for sensory support. This, in turn, may play a role in shaping mobile technology acceptance by autistic children in a more nuanced way.

Given the exploratory nature of this research, it was not possible within the context of the study to acknowledge all of these possibilities and the potential impact of such variation. Future research, however, might seek to explore this possible influence in more detail, perhaps through the presentation of imagery and scenarios. Views could be gathered through quantitative or qualitative means.

8.2.3 Seniority of Participants

The clerics who were interviewed for this study were particularly senior. While this provided a good holistic oversight of the denominations, clerics at a parish and local level would need to be interviewed or surveyed in significant numbers in order to gain a more nuanced representation of the cultural variation within each of the denominations and across the UK Christian community. This would mean the data would likely reflect differences in theology, churchmanship and traditions. This would likely result in a more complex picture of acceptance of mobile technology use, although quantitative data would likely not offer the depth that IPA methodology affords. While the participants in this study would have some appreciation and oversight over the parish and local level realities, this, in some cases, was an understanding built through leadership of their communities, rather than experience on the ground. This was particularly the case for the Eastern Orthodox participant

and, to a lesser extent, Anglican.

Their seniority and schedules during the COVID-19 pandemic also made it difficult to conduct follow-up interviews, which would have been beneficial to this research.

Their seniority, especially for two of the three participants, made anonymity very difficult, and so, despite this permission, a redacted copy of this thesis will be made available for publication. While they agreed to have their names and transcripts included before the research commenced, one of the central tenants of good ethical practice is non-maleficence to the participants. Therefore, this thesis will be redacted and anonymised before publication. This is in order to protect the reputations of the participants amongst those that they lead.

8.2.4   Diversity in the Study

There were no senior female clerics interviewed as part of this research, hence this study may have been limited by a lack of diversity of perspectives. The neurodiversity and personal experiences of autism was not known, other than the anecdotal examples given during the interviews. Such factors may have influenced the responses of the participants.

8.2.5 Autistic and Neurodiverse Representation in the Study

There is no *known* representation from the autism community, either from the perspective of an autistic person, parent or carer. Whether the participants are autistic or not is not known. The exception to this are the views of the researcher.

Working on the acceptance of mobile technology by autistic individuals and those around them in religious and spiritual domains should consider direct consultation and involvement with the autism community. This is to ensure that their views are heard and that their voices are represented accurately within the literature and that they inform research outcomes.

In selecting samples or in the analysis of the data, it is essential to consider the definition of the 'autism community' and to acknowledge the experiences of all autistic individuals, whether they are activists, openly identify as autistic, diagnosed or self-identify, or those who intentionally or unintentionally share that aspect of their lives, along with those who may not be aware of their autism. All of these individuals represent autism.

This presents ontological, phenomenological and practical challenges for the research community and the Church, as the sometimes esoteric nature of autism, nevertheless, represents a reality for the lived experiences of many within the autism community. It is essential to consider that research focusing solely on those who openly identify as autistic must also consider those who experience their autism differently. Concerted efforts need to be made by researchers and the Church to consider the autism community as complex

and a symphony of voices and experiences. Those who are prepared and able to share their autism with others provide valuable insight into the autism community. Their voices must be respected and heard in any research that seeks to understand the experiences of autistic people better.

8.2.6   Complexity of IPA Methodology

Interpretive phenomenology depends on the richness of data (Peoples 2021; J. Smith, Flowers and Larkin 2009) and, while this was achieved, my own inexperience as a researcher possibly limited the depth of data that could have been achieved through more skilful handling of unstructured interviews, particularly with such senior participants. It was also not possible to arrange follow-up interviews with the participants due to the pandemic and constraints on their time, which may have enriched the data further.

8.2.7   Yardley's Measures of Success

As outlined in section 3.11.6 of the Methodology, J. Smith, Flowers and Larkin (2009) identify Yardley (2000) as providing a suitable measure of success for interpretive phenomenological research. This section, then, uses the measures outlined by Yardley (ibid.) as a critical reflection on the research conducted in this project.

Sensitivity to Context

According to Yardley (2000), sensitivity to context should be applied with regards to the handling of the theoretical, relevant literature, sociocultural setting, participant's perspectives and ethical issues. In the case of this research, an interpretive phenomenological approach to the data collection and analysis was adopted. Largely unstructured interviews (conversation with a purpose) were adopted in order to ensure that the participants were given an opportunity to steer the conversation in such a way as to feel as comfortable as possible. This approach was also chosen in deference to the participants' seniority. This was especially important given the sensitive nature of the subject matter (inclusivity, disability, faith and spirituality).

Commitment and Rigour

Yardley (ibid.) state that commitment and rigour within IPA is demonstrated by an in-depth engagement with the area of research. It is also suggested that it is achieved through methodological competence and skill through data collection. While the data collection went relatively well, the calibre of the participants and their seniority meant that a more experienced researcher would have potentially achieved greater data returns from the interviews conducted. The same can perhaps be said for the analysis of the data. Broadly speaking, however, this has been a positive learning experience in qualitative methods.

Transparency and coherence

Clarity and the power of the argument, combined with a transparent account of the methodology used are a reflection of transparent and coherent IPA research (Yardley 2000). Yardley (ibid.) also states that clear presentation of the data and reflexivity (see section 8.3 of this chapter) are important. As part of this research, the researcher's personal background as the daughter of a Christian priest and as a mother of autistic children has been acknowledged throughout. All participants were approached by email, a participant information sheet and provided a link with a dedicated website in order to take their time to learn about the study and the researcher before agreeing to proceed with the project. Participants were asked again at the beginning of each interview if they were happy to be included in the thesis and were offered copies of the transcript. This was requested by the Roman Catholic participant but declined by the other two participants.

Impact and Importance

According to Yardley (ibid.), the impact of research can be achieved by enriching an understanding from a theoretical perspective or by enhancing practical approaches, for example, for a community, policymakers and health care workers.

In the case of this research, recommendations in a copy of the transcript for were requested by the Roman Catholic participant, in order to support a reporting back to the Bench of Bishops in England and Wales. This may help support policy-making decisions going forward. In the case of the Eastern Orthodox Church, there was a request for further information, including the

possibility of providing support and training for clerics within the UK.

8.3 Reflexivity

8.3.1 Personal Reflexivity

In this section, I reflect on my personal reflexivity as part of this research process.

When I came to this research, I did not have many assumptions about the themes shaping technology acceptance but felt convinced that there was an issue around public perceptions of use within religious settings. This perception was largely shaped by personal experience and anecdotal conversations. Being the daughter of a member of the clergy, I was well aware of the desire for children to, not only be tolerated, but to be positively welcomed into the Church. Regardless of this, I still felt the tension as a parent about ensuring my own children's outward behaviour in church settings and tolerance.

As a parent of autistic children, the youngest of which was very attached to mobile technology, I typically refused the use of the devices during our sporadic church attendance, instead preferring the use of colouring books, reading books and favourite quiet toys. Without considering the reasons in-depth, I felt a sense of discomfort about the use of mobile devices and was concerned about others' perceptions of my children and myself as a parent. During the pandemic and after the data collection phase of this project, however, I began to use the app Universalis during attendance at my local Roman Catholic Church. This was, in part, due to lack of prayer books,

which had been removed due to COVID-19. Despite having a much greater understanding of the issue and while being aware that I was 'doing nothing wrong', in that I was using the app as intended, I still felt a sense of self-consciousness and discomfort.

As a researcher, this project has demonstrated to me that an improved understanding of an issue does not necessarily represent a change in psyche or behaviour, either personally or in that of others. I have realised that many of the prejudices, thoughts and preconceived ideas that have been identified as a consequence of this research exist in myself and continue to do so. To me, this represents the depth of the cultural implications that are likely at work in terms of mobile technology acceptance in specific circumstances, especially in religious spaces.

During the research, I developed an increasing awareness of some of the politics of autism and the ethics around research and innovation. The use of appropriate terminology, the impairments focus of the medical literature and the overall goal of mobile technology in the support of autistic children and their families became increasingly prominent in my mind as I composed the thesis. In turn, this began to impact on my thoughts about writing. At one point during the analysis, I did feel the need to disengage from social media, including the ActuallyAutistic communities (advocates for the autistic community), in order to manage this. At the time of concluding this research, there was also considerable dialogue around Cambridge University's Spectrum 10K research call for participants to provide DNA data, raising concerns ethical concerns about the potential for prenatal testing for autism and reigniting a dialogue around worth of an autistic person based on abilities. The writing that I undertook at the beginning of the project was

certainly more 'clinical' in its approach than my writing towards the end. I became considerably more reflective about the purpose of the use of mobile technology in supporting autistic children in church settings - was it for the benefit of the child or those around them? Where therapeutic applications to improve social interactions for those with autism were discussed, I developed conflicting thoughts about true acceptance over conformity of behaviours. As a researcher, I needed to remind myself that such an ethics critique was not the intention of this project but, nonetheless, important to consider.

While undertaking this work, I have been surprised at the lack of technology acceptance research within spiritual and religious settings. When I entered into this research project, I was unsure of my own likelihood of continuing my research in this area. I am now confident, however, that this area of work is worthy of further exploration, and I hope to make a meaningful contribution to the corpus of literature in technology use and acceptance within spiritual and religious communities. I am more convinced of the importance of information systems research. Developing technological solutions to real-world problems is of paramount importance, particularly where it facilitates people with disabilities to live their truth, but there is an imperative to understand the very human implications of such solutions, not just for the user but for those around them.

8.3.2   Methodological Reflexivity

I chose interpretive phenomenological analysis as a research approach due to its suitability for the aims of this research. Given the potential for the subject material to be sensitive and the potential for spiritual and theological

thought to emerge, I believe that this approach was the most appropriate to allow for depth of data gathering and analysis (J. Smith, Flowers and Larkin 2009). The community being considered has a set of values that are not inspired entirely by the empirical and so understanding the churches as interpreted phenomena made sense. Given the nature of autism as a communicative difference, the perceptions of autistic individuals and their outward presentation is so often an issue of interpretive phenomenology (Macaskill 2019) and so, in hindsight, the application of this method seems perhaps more apt.

When engaging in a 'conversation with a purpose' (J. Smith, Flowers and Larkin 2009) it was, at times, difficult to control the appropriateness of the content. In this case, some of the material that was supplied became inappropriate to share publicly, which had significant implications for the thesis. I have learned that there is an almost paradoxical aspect to interpretive phenomenological analysis. The seeming informality of an unstructured interview increases the risk of inappropriate sharing of information in sensitive contexts. If I were to use IPA as part of my future research, I would hope to have an increased awareness of such pitfalls and mitigate this through anticipation, both in terms of handling my interviews and preparation of the participant.

The experience of being a 'co-creator' of knowledge with the participants, especially of such experience, was a very rewarding experience. I found the iterative nature of the hermeneutic cycle (Peoples 2021) was not just a formulaic aspect of the research process that needed to be consciously applied to the data analysis, but something that felt intuitive and that flowed as a natural consequence of IPA. I found it an interesting experience to begin to

view myself critically as another participant in the research process.

8.4   Future Research

While there exists some literature within the domain of *digital religion* and the expression of faith through digital media, there appears to be much less research that has been conducted into the acceptance of digital devices within religious spaces such as churches. From this research, it would appear that the desire to be inclusive as a church, could serve as a key motivator in order to address uncertainties surrounding the use of mobile computing devices within church services. It is clear, however, that this would benefit from further exploration of the cultural, theological and practical themes that may impact that technology acceptance at a parish level.

8.4.1   Focus on Local-Level

Building on the research contained within this thesis, there is scope for further research to be conducted at a parish level. As mentioned earlier in this chapter, this research could potentially reveal some of the nuanced variations between the various churches on the ground, where it is likely that variations in churchmanship, demographics and culture could impact on the way that mobile technology devices are accepted. There is a focus on the views of senior clerics within this body of work. Whilst such senior clerics have provided a holistic insight into the views of the Christian communities and, ecclesiastically, are regarded as the representatives of the people, the application of methodological approaches that engage a wider and more di-

verse sample of clergy and congregation members at a local level are likely to reveal significant variation in attitudes towards the use of mobile technology within religious environments, whether that be in support of autistic children or otherwise.

At a parish level, there may be scope to conduct an ethnographic study of autistic children using mobile computing devices within church services. Such an approach may be supported by survey or interview data to explore whether expressed views by the congregations and clergy are consistent with behaviours within the context of the Mass or other service. Such an approach could further test the outcomes of this research, particularly for the themes of the *Role of Clergy* and *Individual and Community.*

8.4.2   Further Exploration of the Individual Themes

It is argued, as a consequence of this research, that there are broad but complex themes that can shape the acceptance of mobile technology within religious spaces. Faith-based groups, as cultural entities, are not significantly researched within the discipline of technology acceptance and information systems. There is scope, then, for further research to be conducted to build understanding of how new digital technologies and software can be built with sensitivity to religious communities. I would argue that the development of novel methods and models to support such integration within religious spaces is best achieved through multi or interdisciplinary work and stakeholder engagement.

Once there is a more clear recognition of the potential role of mobile technology in facilitating inclusion within churches for autistic children and

their families, it would likely be beneficial that more established methods of assessing technology acceptance, including user acceptance, such as TAM (F. D. Davis 1989) or UTAUT (Venkatesh, Morris et al. 2003), are applied to this area.

8.4.3 Definition of User within Theological Context

When an autistic child uses a mobile computing device to feel more comfortable or included in church environments, the question of the definition of 'the user' is raised. The data and analysis that have emerged from this research suggest that whilst there is a broad acceptance of such use, possible caveats and concerns remain.

The child is understood to be the device's end-user. However, when that use benefits the broader community by facilitating a more authentic Communion, the parents and broader Church might also be argued to be users, too. The perceptions of those around the end-user of the purpose for use or how the child interacts with such a device may challenge such an understanding. Such issues present phenomenological challenges, not just within the domain of information systems but also within practical theology. Whilst this research revealed this within the research, this was not explored in depth. Therefore further interdisciplinary research is warranted into the views and attitudes towards the use of mobile technology or other assistive technology within both information systems and theology, particularly within spiritual and religious settings.

8.4.4 Application of User-Acceptance Models

As identified in Section 8.4.3, there are questions regarding the perceptions and understanding of who are the actual users of mobile computing technology when autistic children use it within a religious context. This creates potential barriers to the application of tried and tested models such as TAM (Technology Acceptance Model) (F. D. Davis 1989) and UTAUT (Unified Theory of Acceptance and Use of Technology) (Venkatesh, Morris et al. 2003) when considering user acceptance in the broader context of the Church. Nevertheless, there remains scope to apply such models when considering the acceptance by autistic end-users. Indeed, it would be a valuable insight into how autistic people view and use such technology in religious contexts. With greater clarity around the definition and perceptions of the user in religious contexts, especially through the lens of theological thought, there may be further scope to apply such models in the future. This might be through more quantitative methodological approaches, which survey the views of a much larger sample within the UK Christian community.

8.4.5 The views of Autistic Individuals, Families and Caregivers

This research, whilst it surveys the views of senior clerics within the Christian community, it does not survey the views of autistic users and those who support, love and care for them. At the beginning of the research, a pilot study was conducted as part of this research (see Section 3.10). A questionnaire was deployed to ask parents and carers of autistic children about their views and experiences of using mobile devices within churches and other religious

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settings. Whilst the sample size was small at around 30 participants, the data suggests that there may be a desire amongst parents to utilise mobile technology to facilitate the presence of autistic children in churches but that this might be hindered by a lack of understanding about how such use might be perceived by the wider community. As identified in section 2.2.2, existing concerns around stigma can present as a barrier to inclusion for autistic children and families. The use of mobile technology by autistic children in religious settings may heighten concerns of stigma, whether that be real or perceived.

Further research is required to establish the ways in which autistic people might and do use their mobile technology within Christian religious settings. This should be achieved through direct engagement with the autism community to build a greater understanding of the needs, expectations, hopes and concerns around the use of mobile computing technology in such contexts. It is recommended that appropriate and sensitively-applied qualitative and quantitative research approaches such as focus groups, surveys and interviews are conducted to gain further insight.

8.5 Recommendations for the UK Christian Community

Whilst it is outside of the remit of this research to advise the UK Christian Community on whether the use of mobile technology by autistic children should be accepted within churches and liturgical settings, a number of recommendations based on the outcomes of this research are put forward for

their consideration.

These recommendations are:

8.5.1   The Role of Clergy

It is likely that parish and local clergy, who are working at a grass-roots level within the Christian community, will be the key agents in supporting the acceptance of mobile technology use by autistic children. This is due to their existing relationship with the membership of the churches they serve and have nuanced understanding of the unique characteristics of the members, the local culture and preferred styles of worship. Clergy are best placed, then, to support the community by building an understanding of the role of mobile technology within the context of spiritual and religious practice.

Given that many of the clergy are already using smartphones and tablet computers for their own religious practice, it is possible that they may be able to:

- Demonstrate good practice in terms of their own use,

- Raise awareness of good practice of mobile technology use within churches

- Support a raising of awareness of the benefits of mobile technology in an assistive capacity and how it can help children with autism and other disabilities

- Support the membership and congregations in understanding that autistic children may appear not to be engaging but that they may be

- Support an awareness of the challenges that can be experienced by autistic children in church environments,

- Promote a welcoming of digital devices in the church for all, when used for appropriate purposes.

Guidance and conversation amongst the clergy themselves and sharing of best practice may foster a greater sense of confidence in welcoming mobile technology into liturgical settings. Newsletters, social media and the weekly notices may also be vehicles to raise awareness amongst the congregations.

The churches may also wish to consider purchasing tablet computers for use by the membership. They could be marked with labels or covers which could help reinforce the idea that such devices are authorised during the liturgy. Where budgetary constraints exist, other markers such as stickers might be considered. This should not, however, undermine the need for education, along with guidance and support for congregations.

It is important that the families of autistic children know that mobile device use is welcome within liturgical settings, especially when it is providing valuable support, including through play behaviours.

8.5.2   Recognising Presence

When a child uses a mobile phone or tablet computer, it may outwardly appear as if they are not engaging with the events that are taking place around them. This may or may not be the case. It is important to consider that presence might not appear as expected. The congregation might need

to reassurance that the use of digital technology, even if the child might be playing a game, may be helping them to cope in the church environment and that it may even be helping them engage spiritually, even if it does not look like that might be the case. Digital devices used to distract children and keep them company is not much different to a child using a colouring-in book or favourite toy. It is the modernity of such devices that might make people feel uncomfortable.

8.5.3 Support of Families

Families of autistic children may already have concerns about their child's behaviour and how they may be perceived by others in the community. This may also extend to concerns about how their parenting is perceived by others. Such concerns around stigma or the perceptions of other members may be based on reality or may just be perceived. There is an element of risk associated with mobile device use in environments that may have expectations of behaviour and social interaction. The clergy can help provide support and encouragement, along with key members of the congregation, who could receive training in autism awareness and the use of mobile technology. Such openness around the use of these devices could also play an important role in fostering a culture of acceptance.

8.5.4 Theological Thought

Further discourse within the disciplines of the theologies of technology and disability may provide greater confidence to church policy decisions regarding

the use of digital devices within religious spaces.

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Appendix A

Anglican Data Matrix

PoU - Purpose of Use

RoC - Role of Clergy

Inc - Inclusivity

ThT - Theological Thought

DvA - Digital v Analogue

IaC - Individual and Community

	Page	PoU	RoC	Inc	ThT	DvA	IaC
Q4.1	169	x			x		
Q4.2	171		x				x
Q4.3	171						x
Q4.4	172			x		x	x
Q4.5	172		x	x			x
Q4.6	173					x	
Q4.7	174	x				x	x

Q4.8	174	x					x
Q4.9	175			x			x
Q4.10	175	x		x			x
Q4.11	176			x	x		
Q4.12	177		x	x			x
Q4.13	178		x				
Q4.14	178		x			x	
Q4.15	178		x				
Q4.16	179		x	x			x
Q4.17	180		x	x			
Q4.18	180				x		x
Q4.19	181			x			x
Q4.20	182			x			x
Q4.21	183			x		x	
Q4.22	184			x		x	
Q4.23	184					x	x
Q4.24	185			x		x	
Q4.25	186					x	
Q4.26	186					x	x
Q4.27	187						x
Q4.28	187					x	x
Q4.29	188						x
Q4.30	189	x			x		
Q4.31	189				x		
Q4.32	190			x			x
Q4.33	191			x			

Q4.34	192		x				x
Q4.35	192			x			
Q4.36	192						x
Q4.37	193						x
Q4.38	193					x	x
Q4.39	194		x				x
Q4.40	194		x				
Q4.41	194		x				
Q4.42	195						

Appendix B

Orthodox Data Matrix

PoU - Purpose of Use

RoC - Role of Clergy

Inc - Inclusivity

ThT - Theological Thought

DvA - Digital v Analogue

IaC - Individual and Community

	Page	PoU	RoC	Inc	ThT	DvA	IaC
Q5.1	196			x			x
Q5.2	197						x
Q5.3	197	x		x	x		
Q5.4	199			x			
Q5.5	199			x	x		x
Q5.6	200	x	x	x			x
Q5.7	201	x		x	x		

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Q5.8	202	x		x	x		
Q5.9	204	x					x
Q5.10	205	x		x			
Q5.11	205			x			
Q5.12	206		x				x
Q5.13	206		x				
Q5.14	207		x				x
Q5.15	208		x				x
Q5.16	209			x			x
Q5.17	209		x				x
Q5.18	210						x
Q5.19	210	x	x	x			x
Q5.20	212		x	x	x		
Q5.21	212	x					x
Q5.22	213	x				x	
Q5.23	214					x	
Q5.24	215			x		x	
Q5.25	216			x	x		x
Q5.26	216			x	x		x

Appendix C

Roman Catholic Data Matrix

PoU - Purpose of Use

RoC - Role of Clergy

Inc - Inclusivity

ThT - Theological Thought

DvA - Digital v Analogue

IaC - Individual and Community

	Page	PoU	RoC	Inc	ThT	DvA	IaC
Q6.1	220			x	x		
Q6.2	221			x	x		
Q6.3	221		x	x			
Q6.4	222		x	x			x
Q6.5	224		x	x			
Q6.6	224		x				x
Q6.7	225	x				x	x

Q6.8	226	x		x			
Q6.9	227			x			x
Q6.10	228		x		x		
Q6.11	229				x		
Q6.12	229				x	x	x
Q6.13	231		x			x	x
Q6.14	232		x	x			x
Q6.15	233		x	x			
Q6.16	233	x			x		
Q6.17	235	x			x		
Q6.18	236				x	x	
Q6.19	237	x					
Q6.20	237	x				x	x
Q6.21	238		x	x			x
Q6.22	239			x			
Q6.23	239			x			x
Q6.24	240			x			x
Q6.25	241			x			
Q6.26	242			x			x
Q6.27	242			x			
Q6.28	243			x			
Q6.29	243			x	x		
Q6.30	244						x
Q6.31	245			x			x
Q6.32	245		x				
Q6.33	246				x		x

Q6.34	247		x			x	
Q6.35	248			x		x	
Q6.35	249					x	

Appendix D

Personal Communication - by Rev. Dr. Paul Fitzpatrick

The following passage is an extract from an email received from Rev. Dr. Paul Fitzpatrick on 13 October, 2021, who is an advisor and trainer for the UK Home Office, the Welsh Government, the Church in Wales, Exeter Diocese and the Northern Devon Clergy Chapters:

However, cross-ecumenical worship communities, such as armed forces, university and hospice chaplaincies, including increasingly combined small churches and congregations in deeply rural areas, such as North Devon, take a different theological view on technology. 'Lived' experiences in such faith communities show that fluidity and tidal understandings of God are not only engaged, but encouraged by hard pressed clergy in even the most doctrinal of church traditions. Here the use of technology, together with broader and simpler forms of worship are seen as evidence of the Holy Spirit working his purpose out in the human experience. It came as a surprise to many that

during lockdown when the majority, if not all, of faith communities went on line, that Christian congregations grew in many/most places, not only in weekly worship but for Lent, Advent and evangelical courses such as 'Alpha'.

The return to terrestrial worship has been welcomed, to be sure, but technological adaption by the congregations in all ages and in all social classes has been found to be positively engaged for all worship and reflection. As one senior cleric put it 'the Genie is out of the bottle. The use of technology in churches is now fully accepted and the laity are driving the change regardless of fine theological considerations of its leaders; the tech revolution, like the reformation, is being driven from the ground up'.

Appendix E

Ethics Application

This section includes the ethics application for this research. The direction and shape of the research evolved to deviate in some details away from the original application. Any changes were discussed with the supervisory team and the Associate Dean of Research before proceeding.

Please see the following pages for the Participant Information Sheet and the Ethics Application Form.

PARTICIPANT INFORMATION SHEET

Mobile Computing Technology Acceptance in the Support of Children with Autism Spectrum Disorders and Their Families in Religious Spaces: A Case Study of Christianity in the UK

Project summary

The purpose of this doctoral research project is to learn more about the different factors that may influence the acceptance of mobile technology in the support of children with autism and their families within Christian religious spaces in the UK. Your participation will enable the collection of data, which will form part of a study being undertaken by me as part of my PhD studies at Cardiff Metropolitan University.

Why have you been asked to participate?

You have been asked to participate because you fit the profile of the population being studied; that is you are over the age of 18 and a member or cleric within a UK Christian community.

Your participation is entirely voluntary, and you may withdraw at any time. Please also feel free to ask questions at any point in this process.

Project risks

The research involves the completion of a questionnaire and participation in a focus group interview and which will be recorded for later analysis. We are not seeking to collect any sensitive data on you; this study is only concerned with the attitudes towards and acceptance of the use of mobile technology within religious spaces such as churches and prayer houses. We do not think that there are any significant risks associated with this study. However, if you do feel that any of the questions are inappropriate then you can ask to move on from that question or stop the interview or focus group at any time. At any point in this process, you can change your mind and withdraw from the study at any time – your decision will be completely respected and understood.

How we protect your privacy

All the information you provide will be held in confidence. We have taken careful steps to make sure that you cannot be directly identified from the information given by you. Your personal details (e.g. signature on the consent form) will be kept in a secure location by the research team. When we have finished the study and analysed all the information, the documentation used to gather the raw data will be destroyed except your signed consent form which will be held securely for 5 years. The recordings of the focus groups/ interview will also be held in a secure and confidential environment during the study and destroyed after 5 years.

<div align="center">YOU WILL BE OFFERED A COPY OF THIS INFORMATION SHEET TO KEEP</div>

If you require any further information about this project then please contact:
Catherine Tryfona, Cardiff Metropolitan University
Cardiff Metropolitan University email: ctryfona@cardiffmet.ac.uk, Tel: 02920 416359 / 07551 937990

CARDIFF METROPOLITAN UNIVERSITY
APPLICATION FOR ETHICS APPROVAL

When undertaking a research or enterprise project, Cardiff Met staff and students are obliged to complete this form in order that the ethics implications of that project may be considered.

If the project requires ethics approval from an external agency (e,g., NHS), you will not need to seek additional ethics approval from Cardiff Met. You should however complete Part One of this form and attach a copy of your ethics letter(s) of approval in order that your School has a record of the project.

The document ***Ethics application guidance notes*** will help you complete this form. It is available from the Cardiff Met website. The School or Unit in which you are based may also have produced some guidance documents, please consult your supervisor or School Ethics Coordinator.

Once you have completed the form, sign the declaration and forward to the appropriate person(s) in your School or Unit.

PLEASE NOTE:
Participant recruitment or data collection MUST NOT commence until ethics approval has been obtained.

PART ONE

Name of applicant:	Catherine Tryfona
Supervisor (if student project):	Dr Simon Thorne, Dr Ana Calderon
School / Unit:	Cardiff School of Technologies
Student number (if applicable):	st20054767
Programme enrolled on (if applicable):	PhD
Project Title:	Mobile Technology Acceptance in the Support of Children with Autism Spectrum Disorders and their Families: A Case Study of Christianity in the UK
Expected start date of data collection:	15/03/2020
Approximate duration of data collection:	3 months
Funding Body (if applicable):	None
Other researcher(s) working on the project:	None
Will the study involve NHS patients or staff?	No
Will the study involve human samples and/or human cell lines?	No

Does your project fall entirely within one of the following categories:	
Paper based, involving only documents in the public domain	No
Laboratory based, not involving human participants or human samples	No

Practice based not involving human participants (eg curatorial, practice audit)	No
Compulsory projects in professional practice (eg Initial Teacher Education)	No
A project for which external approval has been obtained (e.g., NHS)	No
If you have answered YES to any of these questions, expand on your answer in the non-technical summary. No further information regarding your project is required. If you have answered NO to all of these questions, you must complete Part 2 of this form	

In no more than 150 words, give a non-technical summary of the project
This study gains insight into the socio-cultural factors that influence mobile technology acceptance in religious spaces, using Christian worship within the UK as case study.   Through primary data collection techniques, this project explores attitudes towards acceptance of mobile technology within religious spaces, particularly when used for the purpose of supporting children with autism and their families.   Viewing Christianity in the UK as a diverse and ontologically inclusive social group, it seeks to explore the relationships that occur between the various socio-cultural factors influencing mobile technology acceptance within this context.   A novel framework will be created to support understanding amongst software engineers, religious groups and support organisations of how mobile technology is accepted in religious contexts, with a view to sensitive incorporation of mobile technology in a supporting role.

DECLARATION: **I confirm that this project conforms with the Cardiff Met Research Governance Framework** **I confirm that I will abide by the Cardiff Met requirements regarding confidentiality and anonymity when conducting this project.** **STUDENTS: I confirm that I will not disclose any information about this project without the prior approval of my supervisor.**	
Signature of the applicant: C. Tryfona	Date: 6 February, 2020
FOR STUDENT PROJECTS ONLY	
Name of supervisor: Simon Thorne	Date: 10 March 2020
Signature of supervisor: Simon Thorne	

Research Ethics Committee use only	
Decision reached:	Project approved ☐
	Project approved in principle ☐
	Decision deferred ☐
	Project not approved ☐
	Project rejected ☐
Project reference number: Click here to enter text.	

Name: Click here to enter text.	Date: Click here to enter a date.

Signature:	
Details of any conditions upon which approval is dependant: Click here to enter text.	

PART TWO

A RESEARCH DESIGN	
A1 Will you be using an approved protocol in your project?	No
A2 If yes, please state the name and code of the approved protocol to be used[1]	
Click here to enter text.	
A3 Describe the research design to be used in your project	

Research Philosophy & Design

This project will use interpretive research philosophy to gain insight into the socio-cultural factors that influence mobile technology acceptance in Christian religious spaces, particularly when used by children with autism and their families. This will support the development of a novel framework of the factors that influence technology acceptance within this context.

Interpretive research rests on the assumption that social realities are shaped by social contexts and human experiences (OER Services, 2019). According to Cresswell (2003), it is held that the most effective way to elicit understanding of the constructed meaning of an event, in this case, the acceptance of mobile technology in religious spaces, is through the eyes of the participants or those who are being researched (the Christian community). Interpretive research is intended to allow for a 'bottom up' approach to the development of novel concepts that occurs within native contexts and, as is not uncommon in interpretive research, the direction of the study draws on my own previous experiences (Schwartz-Shea and Yanow, 2012) as the daughter of an Anglican and, later, Roman Catholic priest and a mother of two children with autism. The research will deploy a phenomenological methodological approach to study the experiences of those within the Christian community and parents of autistic children, in order to contemplate and understand their experiences of and feelings towards mobile technology use in religious spaces. As is typical of projects adopting interpretive phenomenological analysis, a relatively small sample size of participants from relevant roles within the Church and academic community are used. Through unstructured interviews, the participant will be given scope to reflect on their own personal thoughts and ideas and express how they make sense of the topic, including their thoughts on the support of autistic children and their families through the use of mobile technology, its potential role in supporting spiritual inclusion, along with the potential barriers to

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[1] An Approved Protocol is one which has been approved by Cardiff Met to be used under supervision of designated members of staff; a list of approved protocols can be found on the Cardiff Met website here

acceptance within Christian communities. With a relatively homogenous and limited sample of participants, the commonality and differences between the responses will be identified through the analysis. The research will draw on the responses of the participants to generate a narrative based on analysis, which will contribute to the creation of a novel framework outlining the factors influencing technology acceptance of mobile data in the support of autistic children with Christian religious contexts.

Data Gathering, Participant Recruitment and Sample Sizes

While interpretive research places heavily rely on qualitative data, quantitative data may be added with the purpose of clarifying understanding of the phenomenon of interest (OER Services, 2019). Given the broad exploratory nature of this study, this project will draw primary data from a variety of quantitative and qualitative sources including:

Interviews (Sample size: 4)
In order to gain insight into the socio-cultural factors that may influence technology acceptance within individual churches or communities, unstructured interviews will include an Archbishop or other member of the clergy of similar authority, an academic in autism and Christianity, a parish-level member of the clergy and a member of the laity. Interviews will take place on University campuses or other suitable public space. Such participants will be recruited as they are likely to be responsible for representing organisational values, while setting cultural and behaviour expectations within their own churches/groups. These will be recruited via email, letter or social media message. Interviews will take place within the Church or religious space, or other suitable public space. In the report, the name of the participant and the group they represent will be kept anonymous unless express permission is given.

Parental Questionnaire (Sample size: 200)
In order to gain insight into the experiences of and motivations to use mobile technology in Christian religious spaces, online questionnaires developed in Qualtrics will be used. Participants will be recruited via online autism communities, e.g. National Autistic Society. In order to ensure that the identities of children and their families are protected, questionnaire data will be collected anonymously and stored securely.

Secure Management of Data
No participant will be under the age of 18. In all of these data gathering exercises, participants will be informed of their rights to withdraw at any point of the interview or survey without repercussions to them. All data relating to that participant will be destroyed. Any data that is published will be anonymised or attributed to the participant only with their express permission, in full accordance with the UK Data Protection Act. Pseudonyms will be used where appropriate and will be chosen by the participant where they so wish. Any audio recordings of interviews will be transcribed manually as soon as possible. All data files will be encrypted and stored securely on the Cardiff Metropolitan University servers, requiring the username and password of the researcher. These will be deleted as soon as possible upon successful completion of the project.

Data Analysis
The data collected will be analysed using a variety of quantitative and qualitative methods. Survey data will be analysed using the inbuilt tools of Qualtrics and Microsoft Excel. Interview data will also be analysed using NVivo.

	No
A5 If yes, give a rationale for the use of deceptive or covert research	
Click here to enter text.	
A6 Will the project have security sensitive implications?	No
A7 If yes, please explain what they are and the measures that are proposed to address them	
Click here to enter text.	

B PREVIOUS EXPERIENCE
B1 What previous experience of research involving human participants relevant to this project do you have?
I have 14 years of experience of support and supervising undergraduate and postgraduate (M) level research projects, along with five years of professional experience in requirements elicitation and validation.
B2 **Student project only**   What previous experience of research involving human participants relevant to this project does your supervisor have?
Click here to enter text.

C POTENTIAL RISKS
C1 What potential risks do you foresee?
1 – Incomplete surveys due to the length of the surveys.   2 – Participants withdrawing from the interviews before they are completed.   3 – Identifying mutually convenient times to conduct interviews.   4 – Participants representing organisational values instead of personal beliefs.
C2 How will you deal with the potential risks?
1 – Survey length will be kept as short as possible. Surveys will be distributed widely in order to ensure a suitable sample size.   2 – Alternative participants will be recruited where possible. Given the semi-structured nature of the interviews, questions can be modified where appropriate in order to reduce the risk of participant withdrawal.   3 – Aim to devote one weekday to interviews, given that clerics are often busiest on the weekend.   4 – Use surveys for parents. Maintain anonymity of participants in order to encourage responses to be given more freely and with minimal restraint due to social pressures.

When submitting your application you **MUST** attach a copy of the following:

- All information sheets
- Consent/assent form(s)

An exemplar information sheet and participant consent form are available from the Research section of the Cardiff Met website.