Digitally Queer:
The use of Video-Mediated Communication within the Gay and Lesbian Community

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Abstract

Computer-mediated communication has expanded the ways in which individuals can seek information and create content. Moreover, it allows for the forming of new connections between individuals that may otherwise be impossible. In the last decade, video-mediated communication has been adopted by the lesbian, gay, bisexual, and transgender (LGBT) community, as well as straight allies to share information and reach out to the wider community, particularly those who have been the victim of bullying. Despite this increase in video-mediated communication, most research in the area of gay men and lesbians has been focused on the construction of online identity and narratives of the coming-out journey. Therefore, it is necessary to investigate how video is utilised to disclose matters pertaining to lived experience to further understand this community, and identify how video could be used to better support this minority group.

In the first stage of this research study, a qualitative analysis of online video was carried out to investigate how individuals engage with LGBT bullying content. The findings revealed individuals to openly disclose deeply personal, and identifiable, information to a global audience. Next an empirical study was carried out with a sample of gay men and lesbians to allow for the close examination of verbal and visual content disclosed in offline video diaries. This was followed by an interview study to examine the practicalities of using wearable and handheld technologies to facilitate this disclosure. Content was found to vary between sexes and recording device, with wearables facilitating a greater degree of discussion for certain topics. Moreover, the recording of point-of-view video diaries was found to be a useful tool in personal development.

The findings from this thesis extend understanding of how gay men and lesbians engage in video-mediated communication. In addition, the findings reveal how wearable and handheld video recording can be used as a beneficial tool both for this group and the wider community.

For all of the LGBT youth who felt isolated or persecuted

because of their sexual identity and chose to end their lives.

You are lessons to all of us.

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List of Acronyms

API   Application Programming Interface

CMC   Computer-Mediated Communication

CSV   Comma Separated Values

LGBT   Lesbian, Gay, Bisexual and Transgender

SNS   Social Networking Site

UX   User Experience

VMC   Video-Mediated Communication

XML   Extensible Markup Language

Chapter 1: Introduction

1.1. Background

Individuals who identify as lesbian, gay, bisexual or transgender (LGBT) have adopted computer-mediated communication (CMC) in order to connect with others who may share common interests or beliefs (Drushel 2010). CMC facilitates the networking between individuals that may otherwise be impossible due to, but not solely limited to, social stigma or physical incapacity such as limited mobility or geographical location. These online spaces afford individuals the opportunity to create an online persona that can vary considerably from offline reality (Pearson 2009). The construction of online identities can be viewed as a means by which LGBT individuals develop their sexual identity in a space where they can control the level and pace of disclosure (Alexander 2004; Harper et al. 2009). However, the ability to conceal true identity and remain relatively anonymous can facilitate an increase in self-disclosure (Suler 2004) as well as hostile behaviour (Jobling 2011; Lapidot-Lefler and Barak 2012). With the increase in mobile-based location-aware applications, the boundary between online and offline space has become blurred with interactions defined by physical location (Blackwell, Birnholtz and Abbott 2014).

Despite developments in legal rights for LGBT individuals, including the Equality Act of 2010 which bans discrimination on the grounds of sexual orientation, prejudiced behaviour towards the LGBT community is still prevalent in society (Ratcliff et al. 2006). Acts of prejudiced behaviour, such as physical or verbal bullying, have been found to increase depression amongst LGBT youth (van Bergen et al. 2013; Bontempo and D'Augelli 2002; Clements-Nolle, Marx and Katz 2006) and in some extreme cases even result in suicide attempts (D'Augelli and Grossman 2001), some of which have been successful (O'Connor 2011).

In recent years, the use of video-mediated communication (VMC) has expanded the methods by which the LGBT community engage with others online. From disclosure of the coming-out narrative (Alexander and Losh 2010) to seeking new partners (Lazzara 2010), VMC has provided a visual means by which individuals can reach out to others. With the introduction of the online video campaign It Gets Better Project in 2010 (It Gets Better Project 2012), in response to a number of youth suicides, there has been a notable increase in the awareness of the LGBT community and its supporters, known as straight allies, utilising online VMC to support others. However, little is known about LGBT individual's offline engagement with VMC. If offline VMC can be used to understand this group further it may even have applications to help aid and support them.

In addition, VMC has enhanced diary studies. Video diaries can facilitate a high degree of reflection (Holliday 2004) and provide rich sources of data (Pink 2013). Furthermore, it has been reported that head-mounted video provides new perspectives into social worlds and experience (Brown, Dilley and Marshall 2008). However, there is relatively little research into the use of head-mounted video devices beyond sport and medical applications (Dinhopl and Gretzel 2014; Vallurupalli et al. 2013). Therefore, exploring the use of video diaries as a method of offline VMC, particularly using wearable technologies, could not only provide a rich source of data pertaining to lived experience but also contribute to the growing body of research in this area.

1.2. Research questions

The aim of this thesis is to investigate the use of VMC by those who identify as a gay man or lesbian. Initially it was planned to focus on the LGBT community as a whole for the entire thesis. However, the results of the first research question, combined with the literature, highlighted that focusing solely on gay men and lesbians would provide a more distinct examination that could be analysed at greater depth alongside existing scholarly work. Furthermore, given the nature of

the population required for the research study, the ability to recruit participants was also considered. As a result, research questions two and three were revised to focus on this subset of the LGBT community. Based on the findings, suggestions are provided as to how this community can be further supported and the role video diaries can play in this. Furthermore, how wearable devices can be used in future video-based research studies is discussed. This thesis will provide answers to the following research questions:

1. How is online video-mediated communication utilised by the LGBT community and straight allies to disclose information specifically relating to LGBT bullying?

   This research question, addressed in Chapter 3, aims to investigate the content of online videos indicated as being related to both bullying and LGBT themes. A thematic analysis of content revealed how online video is used to disseminate information about the self as well as how it is used as a wider support network.

2. How do gay men and lesbians utilise personal, point-of-view, video diaries to reflect on their everyday lives?

   The second research question aims to investigate the content disclosed in video diaries. Further, the use of visuals from the point-of-view style is closely examined alongside the verbal content. The identification of themes in video content provides insight into the facets of everyday life that influence and resonate the most with gay men and lesbians. Differences between sexes and recording device are discussed. Chapter 4 addresses this question.

3. What are the practical implications of using wearable and handheld devices for the capturing of point-of-view video diaries?

The final research question examines users' perspectives of using Google Glass and smartphones for the recording of video diaries in public and private space. This question is addressed in Chapter 5, where the participants from the diary study were interviewed about their experience. Differences are discussed with regards to acceptance in society and future practical applications using both devices are also examined.

1.3. Scope

The main foci of this thesis are that of gay men and lesbians, and their use of VMC to disclose information, particularly using wearable technology. The rationale for selecting this population was due to the existing literature focused on both gay men and lesbians highlighting a gap in knowledge. Moreover, the results of the first study indicated a more focused examination would provide a deeper insight into this community, which could then be situated in the larger field of LGBT research. In addition, it was felt that selecting the sexual minorities which are most visible would help to maximise recruitment potential for a group which is notoriously difficult to recruit from.

In order to gain a broad understanding of the discussion of prejudiced behaviour, specifically bullying, relating to the LGBT community as a whole an analysis of online VMC was carried out (see Chapter 3). As the aim of this study was purely to identify what information is disclosed in online videos that pertains to bullying issues, the sexual orientation of those in the videos themselves is not considered.

The two main studies (see Chapters 4 and 5) focus solely on those who self-identify as either a gay man or a lesbian. Men who consider themselves heterosexual but who also have sex with men, and similarly for women, are not

included in this research study. Furthermore, this thesis is concerned with identifying what themes gay men and lesbians speak about rather than how much they speak about them. Therefore, the analyses presented in chapters 4 and 5 focus on participant prevalence as a determinant of code importance across the sample; i.e. the more people who spoke about a code the more important it is. It is acknowledged that code coverage would allow for further insights to be gleaned across all identified codes, however this thesis was designed to provide a predominantly qualitative analysis of video content rather than a quantitative analysis.

Recruitment for the two main studies (Chapters 4 and 5) took place in the United Kingdom. Whilst participants were from varied backgrounds the findings presented here should be considered in line with the cultural and political influences of western Europe, particularly the United Kingdom, at the time the research was conducted. Furthermore, as this is a video diary study the results should be viewed as a snapshot of life in an otherwise constantly evolving world.

1.4. Structure of thesis

The structure of this thesis is as follows:

- In Chapter 2 a review of the literature focused on the topics related to this thesis is presented. Firstly, the LGBT community is defined and areas of previous research interest with regards to this population are discussed. Afterwards, the use of CMC particularly amongst the LGBT community is examined. Finally, the topic of VMC is explored, with a discussion on how members of the LGBT community have utilised this method of interaction to date.

- Chapter 3 presents the results from an analysis of online videos. In this study focus is placed on LGBT and bullying related content. The analysis

of 151 videos revealed how content creators openly disclose personal information about themselves and their experiences in a non-anonymous rhetoric with a relatively unknown public audience. It is argued that these disclosures could indicate a desire to seek friendship, support and provide empathy. Moreover, the data suggests that the online disinhibition effect, a term used to describe how online behaviour differs to offline behaviour (Suler 2004), whilst true for text-based communication, changes in online VMC.

- Chapter 4 discusses the results from an analysis of 317 video diaries from 30 participants (20 males, 10 females) who identify as either a gay man or lesbian. A qualitative research method combining quantitative aspects was employed to present an in-depth analysis of the content and differences between sex and recording device. Discussions surrounding stereotyping and the coming-out journey were statistically more likely to be discussed by women, whilst physical health was more likely to be discussed by men. The wearable nature of Google Glass resulted in the point-of-view perspective and situational context of the reflections always being captured, regardless of their relevance. In contrast, the visual recorded on smartphone was sometimes underutilised and did not retain the point-of-view style. Furthermore, there is evidence to suggest that wearables facilitate a higher degree of reflection about identity and isolation.

- Chapter 5 discusses the results from an interview study of 30 gay men and lesbians (20 males, 10 females), which examines the practical aspects of recording point-of-view video diaries using wearable and handheld devices, specifically Google Glass and smartphone. Users of Google Glass held a more negative perception of social acceptance than those using smartphone, and felt the visual design needed improvement particularly

in terms of discretion. Moreover, there appears to be a connection between recording reflections in public space and increased self-consciousness. Users of both devices highlight several potential benefits of recording video diaries including personal development and community cohesion.

- In Chapter 6 the overall findings from the three studies which have been carried out are discussed. The results identified from chapters 3, 4 and 5 have been synthesized to provide an in-depth discussion of how VMC is utilised online and offline, the salient themes which are discussed, and the differences between users. Furthermore, the impact of point-of-view visuals in video diaries and the practicalities of wearable and handheld devices are evaluated alongside existing literature. The implications of this work on LGBT intervention strategies, wearable technology design, and future research utilising wearable video diaries is discussed.

- Chapter 7 outlines the contributions this thesis has made to the research community. The findings extend knowledge relating to user-generated video amongst gay men and lesbians, particularly in an offline setting. Furthermore, this thesis provides empirical evidence into the use of wearable devices to capture personal video reflections from a minority group, broadening research into wearable video capture beyond sport and medical applications. Finally, the limitations of the studies and directions for future work are discussed.

Chapter 2:   Literature review

This chapter reviews relevant scholarly work focusing on a range of topics related to the key components of this thesis. Firstly, literature relating to the LGBT community is explored, highlighting the most salient areas of research interest with regards to this community. This is followed by examining CMC, and more specifically VMC. Whilst acknowledging the wider body of research focused on these technological areas and their implications, studies that have an LGBT focus are emphasized.

2.1. The LGBT Community

There is no singular definition to the term 'community'; different definitions exist depending on discipline or the area being examined. Hillery (1955) described community as being a group of people engaged in social interaction within a geographical area. Since, there has been a move away from spatial proximity, with more focus given to social exchange as an essential characteristic (Putnam 2000; Wellman 1988). Community can be defined as "those things which people have in common, which bind them together, and give them a sense of belonging with one another" (Day 2006, 1). Taking the principle of commonality, the LGBT community can be considered to consist of anyone who identifies as non-heterosexual. The studies presented in this thesis examine both online and offline LGBT communities. Therefore, a working definition for each will be presented at the start of Chapters 3 and 4.

The 2013 Integrated Household Survey, the largest social survey by the Office for National Statistics, reported that 1.6% of the sampled UK community (N=169,102) identified as gay, lesbian, or bisexual (Office for National Statistics 2014). In contrast, Stonewall, a UK-based LGBT rights charity, state the total number of gay, lesbian, and bisexual people as 3.7million, approximately 6% of the total UK population (Guasp 2013). This supports earlier reported data from

the UK government, who estimated the figure to be 6%, or 1 in 16.66 people (Campbell 2005). Although there is a degree of variation in these figures, it is important to note that membership of the community does not necessarily indicate active involvement. When considering the gay community, Barrett and Pollack's (2005) findings suggest that those in the working-class are less likely to be involved in the gay community. As a result, there could be a segment of the LGBT community for which the existing literature is not fully representative; that is, the literature may only be representative of those who are able to be, or feel comfortable being, open about their sexual orientation.

Existing research has examined a range of distinct areas of interest with regards to the LGBT community. These include prejudice towards non-heterosexuals, media representation and influence, and mental and physical health (Berlan et al. 2010; Cotten-Huston and Waite 2000; Hendren and Blank 2009; Herek 2000b; McLaren 2009; Ratcliff et al. 2006; Reese, Steffens and Jonas 2014). A key concept throughout this existing scholarly work, as well as this thesis as a whole, is that of identity. Identity is the construction of an individual's sense of self and is influenced by factors including age, sexuality, ethnicity, education, and gender (Gauntlett 2008). In this thesis identity is defined as *the personal characteristics that distinguish an individual*. The following sections examine the aforementioned areas in more detail.

2.1.1. Prejudiced behaviour towards the LGBT community

In the period 2011 to 2012 there were 4,252 hate crimes due to sexual orientation reported to the police in England and Wales (Home Office 2012). Of these, 81% involved violence, with a quarter of those resulting in injury. These figures positioned prejudiced behaviour towards others on the basis of sexual orientation as the second highest reported hate crime in England and Wales. However, it is possible that some incidents go unreported and as such these figures could only represent a baseline.

Different motivations exist for prejudiced behaviour, these include previous unpleasant interactions with non-heterosexuals leading to generalised negative attitudes, fear, and a perception of non-heterosexuals representing values that are in conflict with one's own (Herek 2000a). The roles of gender (Lim 2002; Ratcliff et al. 2006), and religion and ethnicity (Adamczyk and Pitt 2009; Schulte and Battle 2004), have been examined in the shaping of other's attitudes towards those who identify as either a gay man, lesbian or bisexual. Research has uncovered heterosexual women to hold more favourable attitudes towards both gay men and lesbians, whilst heterosexual men hold less favourable attitudes towards gay men than lesbians (Herek 2000b; Lim 2002; Steffens and Wagner 2004). In addition, Steffens and Wagner (2004) identified heterosexual women to have less favourable attitudes towards bisexuals than homosexuals, whilst no difference was found for men. Furthermore, heterosexual women indicate a higher level of internal motivation to respond without prejudice towards gay men and lesbians than do heterosexual men (Ratcliff et al. 2006). Adamczyk and Pitt (2009) argue that the role religion has in shaping attitudes towards homosexuality is underpinned by a nation's culture. Specifically, through their quantitative analysis of World Values Survey data, a nationally representative data source from almost 100 countries, they found evidence to suggest that when cultural emphasis shifts to self-expression attitudes become more accepting. Moreover, when this shift occurs, religion is afforded a greater influence on attitudes about homosexuality. Similarly, in an earlier study, Schulte and Battle (2004) found evidence to suggest that religious attendance is a predictor of attitudes towards gay men and lesbians. Furthermore, when removing religiosity, the authors identified ethnic difference to also be a predictor of attitudes towards lesbians but not gay men. In addition, a study of attitudes amongst college students also identified those with stronger religious convictions to express stronger negative attitudes towards homosexuals (Cotten-Huston and Waite 2000).

There appears to be relatively little research on the impact of these personal characteristics on attitudes towards transgendered individuals. Nagoshi et al. (2008) investigated gender differences in correlates of homophobia and transphobia. They identified conservative attitudes and adherence to traditional gender roles to be predictors of transphobia. Additionally, gender identity was less of an issue for women than it was for men. Similarly, Bettcher's (2007) findings suggest that transphobia arises in heterosexual men through an anger of being "deceived", because of a belief that gender presentation represents genital status. Positive attitudes towards transgender individuals, as well as lesbians and gay men, have been significantly associated with previous contact (King, Winter and Webster 2009; Roper and Halloran 2007; Steffens and Wagner 2004). However, as Steffens and Wagner (2004) note, disclosure of sexual preference to heterosexuals may be as a result of a perceived tolerance. Therefore, positive attitudes may already exist and be the product of other factors such as upbringing, not solely influenced by knowing a non-heterosexual. Sakallı and Uğurlu (2002) identified an interesting divide in contact and attitudes. Participants disclosed feeling comfortable towards non-heterosexuals with whom they have a formal relationship, such as a co-worker. However, when the relationship becomes personal, for example a family member, participants indicated they would be very uncomfortable. These findings further indicate that it is not appropriate to consider contact alone, the type of contact and social-cultural factors need to be acknowledged.

Prejudiced attitudes have also been considered within the LGBT community itself. McLean (2008) examined the range of anti-bisexual attitudes that exist within the gay and lesbian community and the impact of these attitudes on community involvement. The findings revealed that many bisexuals felt their sexuality would not be accepted and as such either avoided involvement completely or would conceal their true sexual identity. However, such behaviour could adversely

affect the bisexual community, perpetuating the idea that bisexuality does not exist (McLean 2008).

2.1.1.1. Bullying

In recent years, the topic of bullying due to sexual orientation has gained increased media attention, notably due to the suicides of several LGBT youths such as Jamey Rodemeyer in 2011 aged 14 (O'Connor 2011) and Jadin Bell in 2013 aged 15 (McCormick 2013). Researchers have investigated bullying, such as physical or verbal abuse, with regards to sexual orientation (Berlan et al. 2010; Mishna et al. 2009; Pilkington and D'Augelli 1995; Swearer et al. 2008). These studies indicate that those who identify as non-heterosexual are at a higher risk of victimisation than others. In addition, homophobic bullying is not exclusively targeted at those who identify as LGBT but also those perceived to be. Furthermore, studies have examined bullying via technological means, termed cyberbullying, specifically amongst those who identify as LGBT (Blumenfeld and Cooper 2010; Cooper and Blumenfeld 2012; Finn 2004; Varjas 2013). Blumenfeld and Cooper (2010) found that out of the 350 self-identified non-heterosexual respondents 47% would not report an act of cyberbullying against them to a parent or guardian. Of these, 52% believe they would have their use of technologies restricted. It has also been noted that the internet "appears to be a place where gay, bisexual or questioning teens are at greater risk than their peers" (Schrock and boyd 2011, 377). Cooper and Blumenfeld (2012) found 71% (n=177) of LGBT respondents indicated that they had experienced cyberbullying, of which 56% felt depressed and 35% had suicidal thoughts as result. In a report for Stonewall, Valentine and McDonald (2004) reported that four minority groups were most prejudiced against by respondents, of these four, gay and lesbian people were one, further highlighting the attitudes of others towards this minority group.

2.1.2. Media and the LGBT community

Research has brought into focus the way in which the LGBT community is represented in the media. Shugart (2003) notes in a study of contemporary popular media on the gay man/straight woman dynamic that the man is always portrayed as white, middle-to-upper class and professionally accomplished. Furthermore, it has been suggested that "homosexual images are presented in a way acceptable for heterosexual audiences by reinforcing traditional values like family, monogamy and stability" (Avila-Saavedra 2009, 8).

The visibility and representation of LGBT individuals in the media is very important as the media has the power to influence others' attitudes towards non-heterosexuals, particularly with regards to gay men and lesbians (Cooley and Burkholder 2011; Levina, Waldo and Fitzgerald 2000). Levina, Waldo and Fitzgerald (2000) identified that those who were exposed to a pro-gay video exhibited significantly more positive attitudes, whilst those who viewed an anti-gay video reported more negative attitudes. The authors also found heterosexual women to be more positive towards gay men than heterosexual men. Similarly, Schiappa, Gregg and Hewes (2005) reported that college students were less likely to be prejudiced towards gay men after viewing television programmes with positive gay male portrayals. Whilst these studies have identified the positive effects pro-LGBT media content can have on attitudes, the impact of homo-erotic imagery has also been examined. Golom and Mohr (2011) found no impact on explicit attitudes after exposure to male-male erotic content. However, there was evidence to suggest that sexually anxious heterosexual men viewed gay men more positively, whilst low anxiety men and high anxiety women reported more negative attitudes.

Wider media consumption has also been linked to attitudes. In their study of 1761 undergraduate students, Calzo and Ward (2009) identified the consumption of certain media genres to be associated with greater attitudes of acceptance

towards homosexuality. In particular, music video and past prime-time TV viewing were associated with greater levels of acceptance. Furthermore, popular culture magazines were correlated with a more accepting attitude, whilst teen magazines, which are usually more conservative in their sexual content, were connected to a less accepting attitude.

However, the media also plays an important role in identity development for those who identify as LGBT. Marwick, Gray and Ananny (2014) found the TV show Glee, which is notable for featuring minority characters, to act as a resource whereby viewers can interpret and navigate their own experiences and sexual identities. Therefore, whilst the media may not always truly represent the LGBT community, it can be an invaluable source of information for those who identify as non-heterosexual. Moreover, exposure to LGBT themed content through the media can influence heterosexuals' attitudes, both positively and negatively.

2.1.3. LGBT wellbeing

The mental and physical wellbeing of individuals who identify as LGBT has been the focus of several studies over the last two decades (D'Augelli 2002; Halpin and Allen 2004; Hershberger and D'Augelli 1995; Rosser et al. 2008; Silenzio et al. 2007; Yelland and Tiggermann 2003).

Conceptualising the effects of prejudiced behaviour on the belief that heterosexuality is the norm, Neisen (1993) suggests that internalised homo-negativity is a reaction to societal heterosexism. Since, Rosser et al. (2008) identified internalised homo-negativity to be significantly associated with depression, and negatively associated with sexual health. Furthermore, research has identified internalised homophobia to be significantly related to lower levels of self-esteem and less developed homosexual identity formation in gay men (Rowen and Malcolm 2002). Similarly, Peterson and Gerrity (2006) reported a

significant negative relationship between lesbian identity development and internalised homophobia and self-esteem. Whilst these results provide insights into the lesbian community, the authors note that the sample was small (n=35) and not considered representative of the overall lesbian population. However, the findings from these studies suggest that there is a need for appropriate support for both gay men and lesbians in the early stages of identity development, as they negotiate both their internal feelings and their social environments.

Early research identified no direct link between victimisation and suicide of lesbian, gay and bisexual youth (Hershberger and D'Augelli 1995). However, in more recent years victimisation of young LGBT youth has been extensively reported as being associated with higher rates of suicide ideation and attempts (van Bergen et al. 2013; Bontempo and D'Augelli 2002; Clements-Nolle, Marx and Katz 2006; Mustanski and Liu 2013; Russell et al. 2011; Shields et al. 2012; Silenzio et al. 2007). In a study of lesbian, gay, and bisexual adults over the age of 60, D'Augelli and Grossman (2001) identified those who had been physically attacked to report higher rates of suicide attempt. Further, their results demonstrate that past victimisation can impact mental health in the later years. This highlights the need to consider the lasting impact of such behaviours on wellbeing. Family acceptance of sexual orientation is reported to protect against suicide ideation and depression in LGBT adolescents and young adults (Eisenberg and Resnick 2006; Ryan et al. 2010). Family acceptance has also been found to increase levels of self-esteem and protect against substance abuse (Ryan et al. 2010). Haas et al. (2010) highlighted the need for prevention strategies, interventions and policy change to decrease suicide risk amongst LGBT populations. Suggestions included the introduction of educational programmes, awareness campaigns, encourage help seeking, advocate for anti-bullying legislation, and advocate for changes to laws that create inequality.

Body image and satisfaction have been the focus of several studies which have reported that gay men experience more body concern and disordered eating (Yelland and Tiggemann 2003), and desire to be more muscular (Tiggemann, Martins and Kirkbride 2007; Yelland and Tiggemann 2003) than heterosexual men. Muscularity dissatisfaction has also been found to be negatively correlated with self-esteem (Tiggemann, Martins and Kirkbride 2007). In addition, stress factors such as internalised homophobia and experience of physical attacks have been associated with body image dissatisfaction (Kimmel and Mahalik 2005). Examining the differences between lesbians and heterosexual women, Share and Mintz (2002) found lesbians to display higher levels of body esteem concerning sexual attractiveness. Moreover, in their meta-analytic review, Morrison, Morrison and Sager (2004) report that there is a suggestion of lesbians being more satisfied with their bodies than heterosexuals, however no reliable differences were identified.

2.2. Computer-mediated communication

CMC can be defined as any "communicative transaction that takes place by way of a computer, whether online or offline" (McQuail 2010, 552). Over the last two decades the use of computers and mobile phones has become an everyday method of social interaction (Bargh and McKenna 2004). With the introduction and prevalence of social networking sites (SNSs) such as Facebook, LinkedIn, and Google+, the Internet has become a place where individuals can maintain friendships, seek new connections, share information, and find love (Acquisti and Gross 2006; boyd and Ellison 2008; Donath and boyd 2004; Subrahmanyam et al. 2008). As Bargh and McKenna (2004, 586) assert the "Internet has unique, even transformational qualities as a communication channel, including relative anonymity and the ability to easily link with others who have similar interests, values, and beliefs".

A key feature of SNSs is that of a personal profile, a space displaying details such as name, age and hometown. The visibility of this profile varies between SNSs and according to user preferences. In some cases the profile may only be visible to other members of the SNS, or in others, anyone on the Internet. This has raised questions concerning privacy (Acquisti and Gross 2006; George 2006; Gross and Acquisti 2005), with personally identifiable information being made available in a public space. Gross and Acquisti (2005) analysed the online behaviour of 4000 university students and identified many users not fully utilising privacy preferences, thus exposing themselves to identity theft. The authors also concluded that many of the individuals in user's networks were not defined as friends, yet "personal and often sensitive information is freely and publicly provided" (Gross and Acquisti 2005, 80). Furthermore, in an analysis of 294 responses to a survey regarding motivations of information revelation on Facebook, it was found that a significant minority underestimate the reach of their own profiles (Acquisti and Gross 2006). It has been suggested that there may be a link between trust and information revelation. In a comparison of MySpace and Facebook users, Dwyer, Hiltz and Passerini (2007) found Facebook users to be trusting of the site and its members, and were more willing to include identifiable information in their profiles.

The area of CMC is far reaching and the literature presented here offers an insight with regards to online communication specifically via SNSs. A feature of online CMC is that of anonymity. This will be examined further in the following section, emphasising its impact on self-disclosure which is a key component of this thesis. After, the use of CMC by members of the LGBT community will be discussed.

2.2.1. Visual anonymity and online self-disclosure

In both face-to-face and online contexts self-disclosure can vary in its level of intimacy, for example disclosing one's occupation may be seen as less intimate than disclosing one's religious affiliation or sexual orientation (Herek 1996). Studies have highlighted various factors, such as anonymity and asynchronicity, which contribute to users disclosing more online than they necessarily would in a face-to-face situation (Krasnova et al. 2010; Suler 2004). Whilst some self-disclosure, for example coming-out, can put an individual at an increased risk of negative acts towards them (Herek 1996; Wells and Kline 1987), individuals still choose to make such disclosure in public online spaces (Alexander 2002b; Alexander and Losh 2010; Drushel 2010, Munt, Bassett and O'Riordan 2002; Rak 2005). With the growth of SNSs, online self-disclosure is more than just what is written in text-based dialogues. Features such as photographs allow a degree of non-verbal disclosure from which viewers can make assumptions (Kim and Dindia 2011).

Nevertheless, the use of CMC can result in highly positive social interaction and allow users to communicate more openly than they would during face-to-face communication. As Heirman and Walrave (2008) note, the "potential to safeguard anonymity is not necessarily a negative feature of online communication". In a study of computer-mediated communication, Joinson (2001, 188) found that "visually anonymous people communicating using computers disclose more about themselves than people communicating non-anonymously". This could be potentially very useful when considering health applications; a user may feel more comfortable in disclosing sensitive information knowing they are safely under a veil of anonymity. Also, due to an absence of non-verbal communication cues, such as a change in facial expression, users may share substantially more with each other whilst engaging in CMC (Joinson 2001; Suler 2004). Furthermore, it has been suggested that "the need to express emotions normally done [face-to-face] (e.g. to smile) with a text-based

alternative (e.g. :-)) may lead to heightened private self-awareness through the act of having to focus on one's inner feelings and emotions to put them down in writing" (Joinson 2001, 189).

However, within online communities the use of pseudonyms and usernames allows users to very easily conceal their true identities and adopt a persona that varies from their offline self (Jobling 2011; Pearson 2009). Pearson (2009) believes that the way in which a user constructs their online identity is an act of performance in which users "play their parts". Some social networking sites try to reduce the boundary between the real world and cyberspace through requesting your first name and last name, such as Facebook. However, this system is easily abused and users can adopt an alias rather than sign up with their real name. Further, users can manipulate how they are perceived online through the information they choose to publish (boyd 2007). As a result, visual anonymity can help to facilitate cyberbullying as it allows the bully "to disassociate themselves from their real life persona" (Jobling 2011); users can separate their online actions from their offline identity and lifestyle (Lapidot-Lefler and Barak 2012; Suler 2004). Consequently, it is possible for a bully to carry out their acts of aggression with minimum possibility of being caught. Whether interacting online anonymously or not it is very easy for the boundaries between what is private and what is public to be blurred. It is possible for online users to agree to privacy statements without reading them and accept default privacy settings offered by the online service. These settings can often result in a majority of information published by a user on a social networking site being made visible to the global online community. Gross and Acquisti (2005, 73) note that "while privacy may be at risk in social networking sites, information is willingly provided". This may be due to a mix of trust in the online service and a lack of understanding that when an item of information is published online it is no longer private. The published information has been placed into the public domain, it exists on servers that are not under the control of the user and the

potential exists for this information to be accessed by anyone with a desire to view it. Users often forget that "what feels like an intimate space can be under the watchful electronic gaze of a large unknown audience" (Pearson 2009). What is disclosed in 'confidence' can easily have wider repercussions as users do things they may never do outside of cyberspace.

The online disinhibition effect, is a term used to describe how people "say and do things in cyberspace that they wouldn't ordinarily do in the face-to-face world" (Suler 2004, 321). This form of disinhibition can work in two ways. Psychologists may refer to disclosure of information in a prosocial way as 'benign disinhibition'. 'Toxic disinhibition', on the other hand, is used to describe more hostile and anti-social interactions, or the exploration of places on the internet one would not seek in reality, such as pornographic material. Suler (2004) proposes six factors, which combine and interact to cause the disinhibition effect, these are: Dissociative anonymity; Invisibility; Asynchronicity; Solipsistic introjection; Dissociative imagination and Minimisation of status and authority. To an extent dissociative anonymity and invisibility overlap, however there are some differences. Dissociative anonymity is concerned with the way in which users conceal their identity through the use of usernames and dissociate their online behaviour from their in-person behaviour. Whilst invisibility can also describe "the concealment of identity" it also plays a role when the identity of those interacting is known. Being invisible allows communicators to be uninhibited about how they look or sound. Asynchronicity refers to online communication that does not take place in real time, for instance email. Therefore, disinhibition can occur through a user not having to deal with an immediate reaction. Solipsistic introjection is characterised by the altering of self-boundaries due to "absent face-to-face cues combined with text communication" (Suler 2004, 323). Communicators may experience "a voice within" when reading another person's messages and as such this person becomes a character within their mind. Users may separate these online 'characters' from offline reality and feel they exist in

two separate spaces, referred to as dissociative imagination. Finally, "people are reluctant to say what they really think as they stand before an authority figure" (Suler 2004, 324). However, in cyberspace the offline status of a user may be unknown; there is a minimisation of authority and users are more willing to speak out and self-disclose.

Fundamentally, individuals can choose how they wish to represent themselves online and can create a new, online, persona identifiable only by a username or pseudonym. This online representation is simply an extension of their offline self. The ability to remain anonymous combined with a lack of visual cues, which are present in face-to-face communication, leads individuals into doing things online they would not ordinarily do outside of cyberspace and can lead to increased self-disclosure. The blurred boundary between what is public and private can often result in individuals unwittingly disclosing sensitive information to a global audience. Whilst it is clear that the online self may differ considerably in reality to the offline self it is important to note that these are just two perspectives of identity that manifest themselves via different modalities of communication.

2.2.2. Computer-mediated communication and the LGBT community

A plethora of mobile- and web-based SNSs exist specifically to connect those who identify as LGBT. These sites facilitate new connections between individuals that may otherwise be impossible, for example due to physical location. It has been reported that gay men appreciate the ability to connect with the gay community in a gay-only online space, rather than being constrained by physical space which for some may be inaccessible (Gudelunas 2012). The concept of an online community has been a theme identified in several studies which examined a range of web-based services aimed at non-heterosexuals (Alexander 2002a; Alexander 2004; Heinz et al. 2002; Rak 2005). As a result, online SNSs can provide a space in which sexual minorities can engage with others, maintain a network of social connections, and gain feedback to help fight social exclusion (Venzo and

Hess 2013). Furthermore, 86% of same sex attracted individuals, between the ages of 14 and 21, have disclosed using the Internet for sexuality related matters (Hillier, Kurdas and Horsley 2001). A main contributing factor was a desire to seek support and affirmation of sexual feelings from the online community.

Literature has been published about the construction of online LGBT identities (Alexander 2002a; Alexander 2004; Brown, Maycock and Burns 2005; Coon Sells 2013; Gray 2014; Harper et al. 2009; Heinz et al. 2002; Rak 2005; Shaw 1997), which have been used to seek friendship and sexual contact (Lazzara 2010; Mowlabocus 2010). Heinz et al. (2002) adopted core cultural symbol analysis, visual imagery content analysis and thematic analysis to investigate the way in which LGBT identities were created in websites from China, Germany, Japan and the United States. The authors found strong thematic similarities between the sites, particularly users embracing technology and using it as a means to link to others like them and out of isolation. In contrast, Alexander (2004) investigated the ways in which LGBT youth use the Internet to communicate information about their lives. It was found that youth not only use the Internet to explore issues such as coming-out but also "as a space for hashing out fairly complex understandings, even re-configurations, of sexuality and sexual orientation identity" (Alexander 2004, 34). Harper et al. (2009) asserted that the Internet offers gay and bisexual adolescents a place where they can develop their sexual identity. The ability to remain relatively anonymous and able to control the level of disclosure were seen as important aspects which help to facilitate this identity exploration in an online environment. In his examination of the gay male SNS 'Gaydar', Mowlabocus (2009) suggests that the inclusion of a photo on a profile enhances visibility and demonstrates an investment to the global community, where one is willing to openly identify as gay or bisexual. Whilst any image displayed does not have to be a true representation of the individual, inclusion of any personal image would indicate a level of comfort not just with oneself but with the SNS and the community it houses. Furthermore, Mowlabocus (2009)

acknowledges that not including an image can result in some trepidation from others about whether to interact with someone who does not show a face picture. In turn this could result in limited engagement, even exclusion, within the community itself. Identity concealment has been found to vary depending on the type of site being used. The disclosure of personal information, including sexual orientation, was reported to feature more highly on sites targeted specifically at gay men compared to general audience sites (Gudelunas 2012).

Whilst online SNSs can provide rich spaces where members of the LGBT community can share information, it is also worth considering that the online sharing and promotion of information relating to offline gay spaces could endanger those locations. Once online, the information has the potential to be accessed by anyone, whether they are a member of the LGBT community, someone seeking to cause harm to others or law enforcement officials seeking to identify outlawed practices (Ashford 2006). As a result, the online LGBT community could inadvertently negatively impact offline reality.

Mobile-based SNSs aimed at connecting gay and bisexual men have become a prominent topic in academic literature over recent years. Whereas there was once a divide between offline and online space, the prominence of location-aware, real-time, mobile applications now blurs this boundary, with online interactions defined by physical location (Blackwell, Birnholtz and Abbott 2014; Burrell et al. 2012; Gudelunas 2012). In addition, an interview study with users of Grindr, a gay and bisexual male dating application, revealed interpreting others' intentions as challenging, particularly when details outlined in publicly visible profiles differed from private chat behaviour (Blackwell, Birnholtz and Abbott 2014). This finding supports previous research into self-presentation in online spaces, with the public profile acting as a shop window where individuals want to be perceived in a positive light (Birnholtz et al. 2014; Brown, Maycock and Burns 2005). However, the mediated nature of these sites combined with the ability to

conceal real-world intentions have led to physical harm, with reports of individuals being assaulted and robbed (LGBTQ Nation 2016; O'Toole 2015; Pink News 2013).

Age has been shown to influence use of SNSs amongst same sex attracted individuals, with 16 to 24 year olds more inclined to seek social interaction and support whilst 25 to 59 year olds seek sexual contacts (Baams et al. 2011). In contrast, earlier research suggests online sex seeking is highly prevalent amongst 18 to 24 year old men who have sex with men (Horvath, Rosser and Remafedi 2008). The desire to seek sexual contact via SNSs has been identified as a potential risk factor for higher rates of sexually transmitted infections and HIV (Bull and McFarland 2000; Halkitis and Parsons 2003). Consequently, several studies have examined the relationship between SNSs and sexual risk taking, which have reported mixed results (Benotsch, Kalichman and Cage 2002; Horvath, Rosser and Remafedi 2008; Hospers 2005; Lau et al. 2003). Whilst some studies identified a connection between SNS use and sexual risk taking (Benotsch, Kalichman and Cage 2002), others found no substantive difference between online and offline groups (Horvath, Rosser and Remafedi 2008). A contributing factor to the varying nature of the findings could be that of sampling differences. Whilst these studies highlight negative facets of SNS use amongst the gay community, Rhodes (2004) and Grov (2006) assert that SNSs are suitable locations for online HIV and AIDS prevention intervention. As such, the very platforms that could be indirectly facilitating sexual risk could mediate increased health awareness to counter this effect. Magee et al. (2011) identified that whilst LGBT youth, aged 16 to 24, seek facts about sexually transmitted infections and HIV online, few search about broader aspects of sexual health for fear of stigma attached to accessing such information. This work highlights further the role SNSs could play in mediating sexual health information. Furthermore, the use of SNSs as spaces for intervention extends beyond sexual health. It has previously been discussed how prejudiced behaviours can impact on suicide ideation

amongst LGBT youth. SNSs have also been identified as having the potential to mediate suicide prevention strategies amongst gay, lesbian and bisexual adolescents and young adults (Silenzio et al. 2009).

The literature on CMC amongst the LGBT community highlights a dominance of SNSs aimed at gay and bisexual men with relatively few sites examined that focus solely on lesbian and transgendered individuals. These sites, such as gay.com and emptyclosets.com, provide virtual spaces in which individuals can gain information, support, and engage with others. They can also act as platforms for intervention strategies relating to both mental and physical health. However, on the other hand, they serve as conduits for hostile and risk taking behaviours which can manifest either online or offline.

2.3. Video-mediated communication

With the prevalence of smartphones, Wi-Fi hotspots, fast cellular data connections, and calling features such as Apple's FaceTime, VMC using mobile devices has become a popular method of engaging with others in everyday life (O'Hara, Black and Lipson 2006). Whilst mobile devices offer increased flexibility without the constraint of physical location, desktop applications and services such as Skype, also provide means by which individuals can have virtual face-to-face communication. The combination of audio and visual cues present in VMC can be particularly useful in providing a sense of connectedness amongst distant family members (Furukawa and Driessnack 2013). Similarly, O'Hara, Black and Lipson (2006) identified video calls to be high value particularly between absent loved ones. Additionally, the study also raised privacy concerns as a potential barrier to making such calls in public spaces. Gender differences have also been identified when making video calls. Kimbrough et al. (2013) identified women to make more online video calls than men, although the motivations behind this interaction require further research.

Examining the role of online videos as mediators of tourist experiences, Tussyadiah and Fesenmaier (2009) identified that shared online video can be a powerful tool. The authors describe online video as a method of virtual transportation, providing a viewer access to a location that may have been otherwise inaccessible to them. Moreover, for others, the video allows for the re-experiencing of a past journey. As shared experience is not confined to any one area, similar findings could be present for other forms of online video-based communication.

Outside of everyday applications, VMC has enhanced diary studies as it provides a visual methodology in which participants can express their experiences and feelings (Brown et al. 2010; Buchwald, Schantz-Laursen and Delmar 2009; Cherrington and Watson 2010; Holliday 2004; Iivari et al. 2014; Katzeff and Ware 2006; Noyes 2004; Sunderland and Denny 2002). Video recording methods varied between studies, some used custom made 'diary rooms' (Katzeff and Ware 2006; Noyes 2004), whilst others opted for video camera and tripod setups controlled by the research participant (Holliday 2004). Although grounded in an educational context, Noyes (2004) asserts that video diaries facilitate the exploration of new avenues of inquiry, and are particularly useful for investigating the effect of socio-cultural influences. Furthermore, Holliday (2004, 1603) states that video diaries allow "participants the potential for a greater degree of reflection than other methods, through the process of watching, rerecording, and editing their diaries before submission". Additionally, video captures where the research subject is situated, which can allow for the examination of where certain discourse occurs and how this varies between diaries (Holliday 2000). As such VMC as a visual research tool can provide scholars with rich forms of data (Pink 2013).

2.3.1. Video communication using wearable technologies

The use of wearable technologies can allow individuals to capture content in a hands-free manner, aside from activating and deactivating the device being used. This content could be documented for personal use, or shared online or offline for wider engagement. Chalfen (2014) highlighted that wearable video cameras can allow for new interpretations of the social world. Furthermore, head-mounted video has been identified as being able to "help convey and evoke the ways in which embodied, emotional, sensory and kinaesthetic knowledges [*sic*] and experiences are produced through social practice" (Brown, Dilley and Marshall 2008). For example, the use of wearable video recorders provides a method by which sports enthusiasts can capture point-of-view footage of their experiences (Dinhopl and Gretzel 2014). In contrast, the capturing of video via a head-mounted camera has also been used in the development of a video diary system (Kawamura, Kono and Kidode 2002). Here, rather than share lived experience, the authors used the videos to help develop a visual system that could aid in memory retrieval. Furthermore, a system to summarise video from wearable cameras, through the identification of regions of importance, has been investigated using an ear-mounted video device (Lee and Grauman 2015).

Video recordings via wearable devices have been widely used in medical disciplines to aid during, or for the recording and documentation of, medical procedures. Bizzotto et al. (2014) and Graves et al. (2014) used GoPro cameras, mounted on head straps, as imaging services during surgery. Both studies identified that the video recordings were suitable for personal, educational, or legal documentation. Furthermore, medical practitioners have also investigated the video capabilities of Google Glass (Glass), a head-mounted device capable of capturing still and moving image at eye level (Armstrong et al. 2014; Assad-Kottner et al. 2014; Muensterer et al. 2014; Vallurupalli et al. 2013). It was found that video quality was high with good audio (Muensterer et al. 2014) and suggested that it could be used a 'black box' for health care data recording

(Armstrong et al. 2014). Disadvantages highlighted from these studies included a lack of technical functionality, such as zoom control, and incompatibility with certain eyewear. The acceptability of Glass as an assistive device for those with Parkinson's, with video creation being one of the assigned tasks for participants, has also been examined (McNaney et al. 2014). Although the study sample was small (n=4), McNaney (2014) reported positive appreciation of the device from participants, but voice recognition inaccuracies caused frustration. However, relatively few investigations have reported on the use of Glass in non-medically grounded applications. Lu et al. (2014) examined the computer vision capabilities of Glass with regards to hand and foot tracking, whilst LiKamWa (2014) studied its thermal characteristics and power consumption. It has also been suggested that Glass could facilitate a new form of first-person documentary recording or journalist broadcast (Reid 2014).

2.3.2. The use of video communication within the LGBT community

The combination of sound and moving-image in user-generated video has expanded the methods by which members of the LGBT community can shape their online identity as well as meet new partners (Lazzara 2010). YouTube, a video sharing website launched in June 2005 and acquired by Google Inc. in October 2006, has become a popular media platform for user-generated video which receives over 1 billion unique user visits per month (YouTube 2013). The content of videos categorised as being of an LGBT nature have been the subject of previous research. Alexander and Losh (2010) examined coming-out videos posted on YouTube in order to better understand the management of sexual identity through an intentional public statement of an intimate disclosure. They found evidence of fake coming-out videos, in which the creators parody videos that are readily available on the site. The use of YouTube as a place to come-out suggests "a valuation of the personal narrative in establishing identity" (Alexander and Losh 2010, 46), however it was found that these videos are rarely watched and commented upon.

In response to the number of youth suicides within the LGBT community due to bullying, Dan Savage, editorial director of the Seattle weekly 'The Stranger', formed the "It Gets Better Project". He created a YouTube video for the LGBT community to highlight the levels of happiness and positivity that can be reached. Within two months the project grew dramatically and inspired "over 10,000 user-created videos viewed over 35 million times" (It Gets Better Project 2012). Aiming to show adolescents that life will get better, the It Gets Better Project (2012) reports that since launch "calls to the Trevor Project suicide hotline have increased over 50%".

Social behaviour, such as that illustrated through the aforementioned project, has been the focus of many investigations and discussions (Alexander 1974; McDougall 1918; Penner et al. 2005; Wang and Wang 2008; Wright and Li 2011). McDougall (1918) brought into focus the theory of prosocial behaviour. Since, research has expanded and developed this to encompass a diverse range of factors including emotional, evolutionary, social and motivational mechanisms (Caporael 2001, Eisenberg 2005, Eisenberg and Miller 1987). Prosocial behaviour can be summarised as "a broad category of acts that are defined by some significant segment of society and/or one's social group as generally beneficial to other people" (Penner et al. 2005, 366). Those who identify as being part of the LGBT community as well as supporters, known as straight allies, who have participated in the It Gets Better Project (2012) can be perceived as exhibiting prosocial behaviour mediated through online video. Here, video contributors are voluntarily reaching out to society with the aim of providing support to LGBT youth who are facing harassment. Additionally, Rotman and Preece (2010) reported that YouTube users do not see YouTube as a place to simply broadcast content but as a community where they can communicate and interact with others.

Solicited video diaries have been used to examine identity performance from a sample of 15 non-heterosexuals (Holliday 2004). Interestingly, aspects of self-consciousness were identified as being the result of performing in front of known others also in the room filming was occurring, rather than as a result of the video camera itself. Furthermore, it was noted that locations for filming were limited and most diaries were recorded at home. Those that were recorded at work were often done in secluded locations. These findings were afforded to the constraints of disclosing an individual's homosexuality and using a video camera in public space. Moreover, the coming out process was found to be constantly negotiated and renegotiated by the diarists. Nevertheless, the video diary was found to be an extremely rich data source and some participants went beyond the instructions to simply film themselves in their chosen outfit/look, and also filmed specific items that held personally important meanings, such as books and prints. Consequently, this suggests that the video diary could be a useful tool for capturing observations and reflections beyond the performance of identity.

2.4. Summary

In this chapter topics relating to the LGBT community, CMC and VMC are discussed. A number of studies related to prejudiced behaviour, particularly bullying of LGBT youth, and wellbeing were discussed alongside how the LGBT community have utilised online video to reach out to others. However, little is known about the content disclosed in videos which focus on LGBT and bullying related themes. The study carried out in Chapter 3 addresses this gap in the literature.

This literature review has also identified a plethora of studies that have examined online identity construction and social network behaviour, particularly amongst a smaller subset of the LGBT community – gay men and lesbians. Further, the use of online video to disseminate the coming-out journey and meet new partners has been discussed amongst this population. However, relatively

few studies have examined the context of everyday life, in an offline environment, to identify what influences and impacts gay men and lesbians. This knowledge could prove useful in identifying possible intervention strategies regarding mental wellbeing or for better understanding social influence on feelings. Chapter 4, contributes to the literature in this area through a reflective video diary study. To ground this study further, a short review of literature relating to diary studies is provided at the start of the Chapter 4.

Research into the use of wearable devices, specifically Glass, for video communication, is still in its infancy and predominantly confined to medical applications. Its feasibility beyond the operating theatre warrants further investigation, especially as wearables can provide new perspectives into lived experience. Therefore, Glass was utilised in the video diary study, and reviewed further to identify its practicalities of use in everyday life (Chapter 5). Note: at the time of writing Glass has been withdrawn from sale for further development. However, the findings of this thesis still impact on future versions of Glass or any wearable device capable of capturing video content, particularly those which are head-mounted.

Chapter 3: Exploring the use of online video in mediating discussions of bullying and self-disclosure

In the previous chapter a number of studies examining bullying and VMC within the LGBT community have been discussed (sections 2.1.1 and 2.3.2). However, there appears to be relatively little research which focuses on analysing online video content in the context of LGBT bullying issues. Importantly, online video is a relatively non-anonymous space, individuals often disclose information directly to the camera, there is a face to which the viewer can associate the information. In comparison, blogs and other forms of public text-based discourse can have more structure, they can also be edited more easily than video. Furthermore, online text-based discourse can be fully anonymous, which in turn facilitates disclosure through disinhibition (Suler 2004). Examining online video, specifically on YouTube, reveals the level of non-anonymous public self-disclosure on topics related to LGBT bullying. It will also extend existing literature that has previously examined this method of disclosure in relation to sexuality, in particular the coming-out narrative (Alexander and Losh 2010; Lazzara 2010). As bullying has become more common amongst younger people, especially LGBT youth, leading in some extreme cases to suicide, it is important to gain a better understanding of this phenomenon. Such knowledge may be of benefit to society in providing stronger support for this minority group. Additionally, the LGBT community's involvement in the It Gets Better Project (2012) suggests a degree of online prosocial behaviour within this social group that can be investigated further.

This study investigates the interactions of the online LGBT community as presented on the YouTube video sharing website. Wellman, Boase and Chen (2002) assert that the Internet has changed the character of community from place-to-place to person-to-person. Furthermore, Lee, Vogel and Limayem (2003) state the characteristics of an online community to be those of communication and interaction to create user-generated content. In their YouTube study,

Rotman and Preece (2010, 320) define community as "a group (or various subgroups) of people, brought together by a shared interest, using a virtual platform, to interact and create user-generated content". The elements of shared interest and creation of user-generated content are taken as being key characteristics of community for this study. As such, the working definition used for this study is that *the online LGBT community is a group of people who have an interest in LGBT issues, regardless of their own sexual identity, and who create video content on this topic to share with others online.*

This chapter explores how online VMC has been utilised by the online LGBT community, as defined above, to disclose information specifically relating to LGBT bullying. The aims of this study were:

1. To study how individuals engage with LGBT bullying issues via online video?
2. To investigate what personal information individuals choose to disclose in online video?
3. To identify what role online video plays in the dissemination of information and support?

The results from this study were published in the peer-reviewed journal Behaviour and Information Technology (Green, Bobrowicz and Ang 2015).

3.1. Methodology

3.1.1. Data collection

To allow for the prompt collection of sufficient data, video data was obtained via the YouTube Data Application Programming Interface (API) version 2.0. An API provides a set of protocols and tools to allow developers access to web-based software applications. The YouTube Data API grants programmatic access to many of the operations available via the YouTube website, including video searching, viewing of related content, video uploading and playlist modification. As such, the data collected can be viewed as a snapshot of a single moment in time. The API was configured to collect any video tagged with the keywords "Bullying" and "LGBT". These two keywords were selected as they define both the social phenomenon and the sexual minority group, respectively. Moreover, whilst other keywords, such as "Bully" and "Victim", could have been used to tag videos of similar content, a keywords survey of literature relating to aggressive/bullying behaviour revealed "Bullying" to be the most common keyword used. Additionally, the acronym "LGBT" has been widely used in society for several decades and is frequently referred to in academic literature. Video uploaders, hereinafter referred to as the contributors, define the keywords used to describe a video's content themselves. The returned results were ordered by 'relevance' which is the default ordering method for YouTube search. As YouTube does not give a specific definition of how relevance is determined, it was felt these would be videos that users of the site are most likely to come into contact with.

Two sets of data were collected, the first on 21st March 2012 and the second on 11th September 2012. The first set of data was used to develop and verify a coding scheme for the content of each video. The second set of data was collected for content analysis following the establishment of a coding scheme. In each set, data relating to 1000 videos (the maximum number of items returned by the API) were collected in Extensible Markup Language (XML) format. The

data was acquired in batches of 50, the maximum number of results that can be returned per API query, resulting in 20 XML files per data collection. Data relating to the video title, author, number of comments, category, description, keywords, duration and date published was obtained for each video during the process. A script was written in the Ruby programming language (Appendix A) to extract the data from the XML files and place it into a single Comma Separated Values (CSV) file ready for analysis. The physical videos were then manually downloaded from the YouTube website using the collected video identifiers to locate them. For the second set of data, the user data was also collected via the API. Demographic data relating but not limited to first name, last name, age, gender, relationship status and location were collected in XML format. In a similar way to the video data, a second script was written in the Ruby programming language to convert these files into a single CSV file (Appendix B).

3.1.2. Analysis

A grounded theory (Strauss and Corbin 1998) methodology, used in social sciences, was adopted for this study to allow for the close analysis of content to reveal patterns and concepts, and to allow for a hypothesis to emerge from the data. This approach, as adopted by others analysing video content (Rotman and Preece 2010, Morgan et al. 2007, Xiao et al. 2004), allows greater insight and enhanced understanding of data due to there being no preconceived assumptions. An inductive thematic analysis conducted within a constructionist framework (Braun and Clarke 2006) was employed to identify latent themes in each video. Content analysis was then used to identify instances of these themes and allow for the discussion of meaning.

From the initial data collection, the first 100 videos returned by the API were selected and the analysis focused on short videos. YouTube defines short videos as being of less than 4 minutes in duration (Google 2013). Longer videos have previously been excluded in similar research to enable a greater degree of

comparison among potentially similar videos (Molyneaux et al 2008b). In addition, any duplicates and videos not in the English language were excluded which resulted in 61 videos for analysis. Previous studies analysing online broadcasting (Rotman and Preece 2010) and narratives of identity construction (Holmes 2016) on YouTube have used sample sizes of 32 and 35 videos respectively. For the development of the coding scheme in the current study, this comparatively larger sample size of 61 videos provided conceptual saturation. The videos were watched three times to ensure complete familiarisation with their content before coding. During the coding process, consecutive themes that shared the same interpretation were taken as one unit and coded into a single code. Therefore, videos could contain one or more codes and individual codes could appear more than once. After all the videos had been fully analysed, the resulting collection of notes describing the content were grouped into coding categories. This process was repeated until saturation point when no new codes could be found and the videos could be coded with the existing codes. The resulting codes were then grouped into themes and an information sheet was developed. This document describes the characteristics of each code to allow researchers to easily identify the appropriate code to use. To ensure inter-coder reliability, two independent researchers each coded a sample of 10 videos. Cohen's Kappa was calculated at 0.71, which is considered substantial (Landis and Koch 1977).

Following the establishment of coding agreement, the second set of data was analysed using qualitative data analysis and research software ATLAS.ti (ATLAS.ti 2016). From this data set of 1000 videos, duplicates were removed using their unique video IDs to identify them. This left 736 unique videos from which a random sample of 100 was taken for content analysis. A random sample of this size has previously been used for a content analysis exploring how men and women communicate in YouTube videos (Molyneaux et al 2008a). Furthermore, given 61 videos provided data saturation for the coding scheme development, it

was felt that a sample of this magnitude would adequately represent the wider pool of data. As the focus of this study was on personal narratives of self and others within the LGBT community, only those videos which featured an individual or individuals speaking directly to the camera were included in the sample. Subsequently, three music videos along with four short screenplays were excluded from the sample. A further duplicate video, which had been uploaded twice and, therefore, had two unique video IDs, was also removed from the sample. Finally, one unavailable video that could not be viewed and one video that had been removed from YouTube were also excluded. This resulted in 90 videos for analysis. As only those videos which featured people speaking directly to the camera, in a 'talking-head' style, were included in the sample, and as the focus of this study was on identifying what is disclosed verbally, not the situational context which facilitates these disclosures, only the audio channel was used for coding. During the coding process each video was assigned an ID number and quotes were transcribed to illustrate the various codes. Whilst these videos are in the public domain, to help protect users' privacy any identifiable information was removed from the transcriptions.

3.2. Findings and discussion

The 61 videos collected in the first phase of data collection for thematic analysis had a combined running time of 2 hours 57 minutes with a median length per video of 3 minutes. For the content analysis phase of this investigation the 90 videos analysed had a combined running time of 7 hours with a median length per video of 4 minutes. The following sections will analyse the general characteristics of the collected video data used for content analysis.

3.2.1. The videos and contributors

YouTube videos can belong to one of several discrete categories defined by the contributor when uploading a video. Within the study sample the most popular category was "Nonprofits & Activism", accounting for over a third of the videos,

36.67% (n=33). The second highest category identified was "People & Blogs", 27.78% (n=25). "Comedy" and "Music" were the lowest with 2.22% (n=2) of all videos in each. As this data is user defined it merely provides an indication of video content.

Each contributor can provide several details within their YouTube profile. The level of completion of these details varies between contributors. It is worth noting that the video contributor and the contributor speaking in the video do not necessarily have to be the same person. For example, a news network may upload videos from their broadcasts; in each video the contributor will be different and may not fully represent the details provided in the YouTube profile. The 90 videos were uploaded by 88 unique contributors. Of those, males made up 51.14% (n=45) of the sample, with females 25.00% (n=22). The remaining 23.86% (n=21) were unspecified. Forty-seven contributors, 53.41%, provided an age on their profiles. Ages range from 16 to 49 years with the median age of 29 years. Age and gender data however could be unspecified for a number of reasons. One of the main reasons would be that the contributors do not wish to disclose this publicly. Other reasons include identifying as non-binary, or, as discussed, corporate users such as news networks may feel it inappropriate to provide a gender. Due to these considerations, the gender and age of the contributors in the selected sample will not be analysed further.

Over half of the videos analysed, 76.14% (n=67), were posted by contributors who listed their location as the United States. Eight contributors, 9.09%, gave their location as Great Britain, whilst the location of 7.95% (n=7) of contributors is unknown due to insufficient data. One contributor is found to be located in each of Australia, Brazil, Canada, Finland, Ireland and Japan.

3.2.2. Coding Scheme

In total, sixteen codes were identified and grouped into seven themes. The coding scheme is summarised in Table 1, overleaf.

3.2.3. Distribution of codes

Videos, particularly those with more than one contributor, were found to contain several instances of demographic information ("demographics on self" and "demographics on others") with an average of 2.61 codes per video. Similarly, videos were found to often contain more than one instance of providing "information for others" (on average 1.94 codes per video). Therefore, the data was combined to count each unique code only once per video. When comparing the number of unique codes per video with regards to the identified themes "information" was found to be most prevalent, 43.50% (n=221). This is followed by "experience" 22.44% (n=114), "opinion" 14.37% (n=73), "exhort" 8.66% (n=44), "empathy" 6.10% (n=31), "miscellaneous" 3.54% (n=18) and "beliefs" 1.38% (n=7).

Theme	Code	Description	Example
Experience	General experience	Comments on own experience.	'Coming out for me was not fun' (P41)
	Other's general experience	Comments on the experience of others.	'On his death bed he pleaded don't tell them why I'm dying' (P53)
	Experience of being bullied	Comments on own experience of being bullied or cyberbullied.	'I was laughed at, or I was criticised by the way I acted' (P17)
	Other's experience of being bullied	Comments on the bullying or cyberbullying experience of others.	'Two of my friends were kicked out of college for being queer' (P25)
Opinion	Self-opinion	The contributor asserts a subjective or evaluative position.	'Things will get easier, people's minds will change' (P1)
	Other's opinion	Comments on the opinions of others.	'Some say that bullying is a simple right of passage' (P2)
Beliefs	Religious beliefs	Comments on own religious beliefs.	'As a Christian' (P78)
	Other's religious beliefs	Comments on the religious beliefs of others.	'I had one very Catholic family, my mother's very much into the church' (P41)
Empathy	Empathy	Recognises the emotions of others; shows compassion.	'I want anyone out there who feels different and alone to know that I know how you feel' (P1)
Exhort	Exhortation	Encouraging others to do something e.g. view a website, subscribe or to think positively.	'Subscribe, share, pin me to your homepage do all the good stuff' (P76)
Information	Demographics on self	Information disclosing the name, age, location, contact details or sexual orientation of the contributor.	'I'm [name]' (P10)
	Demographics on others	Information disclosing the name, age, location, contact details or sexual orientation of others.	'I have a brother who is also gay' (P80)
	Information for others	Comments on statistics, study findings, or general information including laws/policies.	'LGBT youth from highly rejecting families are more than 8 times likely to have attempted suicide' (P17)
	Solicit information	Requests information from others, e.g. asks for advice.	'Comment down below and tell me what you think' (P76)
	Advertise	Advertises products and/or services.	'For $20 GLSEN will provide a safe space kit' (P58)
Misc.	Other	Any content that cannot be classified by the other codes e.g. nonsense.	Montages with no fixed meaning.

Table 1: Coding scheme for the content of YouTube videos
Note: P# refers to the video number

It could be assumed that those videos located within the YouTube category of "Nonprofits & Activism" would either be focused on driving change or providing insight into a socio-cultural situation. This category could encompass videos from charitable organisations whose mission is to support those within their demographic and ensure they do not get forgotten. They drive for awareness and societal change through providing a deeper understanding and awareness of a situation. However, when analysing the codes within this YouTube category it was found that the two most prevalent codes were "information for others" and "demographics on self", 13.90% (n=26) and 13.37% (n=25) respectively. The prominence of "demographics on self" here could suggest that contributors feel they need to disclose personal information, not identifiable through the video itself, in order to fully communicate their message. This finding supports Herek's (1996) conclusion that those who identify as LGBT choose to disclose in order to help change society's attitudes.

In 91.11% (n=82) of the videos analysed, contributors disclosed at least one piece of information relating to either their own demographic background, self-experience, including experience of bullying, religious affiliation or opinion. This suggests that contributors to YouTube are happy to intentionally disclose personal information, other than that which can be derived from the video itself, in a public way. Equally, it could be that contributors are simply unaware they are disclosing to the general public. These statements allow a contributor to establish their online identity through not only the disclosure of demographic information, visually or otherwise, but also through providing narratives of personal experience and opinion.
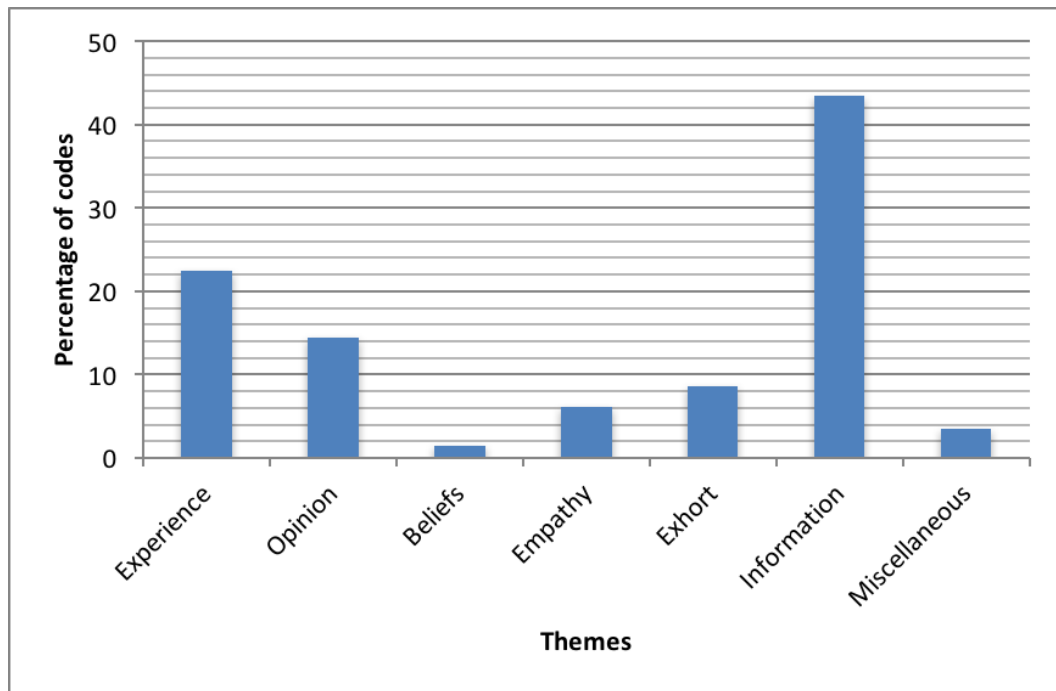
Figure 1: The distribution of unique codes per theme across the sample

3.2.4. Disclosure of information in YouTube videos

Unlike solely text-based communication, YouTube allows users to not only comment on videos and set up a profile, known as a channel, but to also physically see and identify the person they are engaging with through the use of video. These are important features which enable YouTube to provide a community space. Within the sample, video content was found to encompass five areas focused around the disclosure of demographics and the dissemination of information.

Over two-thirds of all the videos analysed, 72.22% (n=65), contained demographic information on the contributor. Whilst just over a third, 37.78% (n=34), contained demographic information relating to a third person. "Demographics on self" was the second most prevalent code within the "information" theme with the level of disclosure varying considerably between contributors. Some reveal only their first names whilst others provide, without hesitation, an extensive list of personal information.

"My name is [first name], and I'm 30 years old and I'm gay, I live here in [name of a US State]" (P5)

Existing research has investigated disclosures such as the construction of identity via CMC through the analysis of text-based communication where individuals can shield themselves with a degree of anonymity (Alexander 2002a; Drushel 2010). When studying social networking on YouTube, Lange (2008) found contributors to publicly broadcast extensive information relating to their identities. Similarly, the findings from this study reinforce the fact that when analysing video-mediated communication with regards to demographic information on the contributor, the disclosure cannot be considered anonymous. Viewers are informed of both the individual's demographic and of their physical appearance; there is a face with which a viewer can associate the information. Thus, video is more revealing than a textual revelation of the same information. There are, however, some similarities with text-based communication when considering these disclosures, for example video communication via YouTube is also asynchronous, it is not in real time. Additionally, whilst a video reveals more, contributors are still interacting with a group of strangers who are, or at least feel like they are, far away unlike in face-to-face communication. The online disinhibition effect (Suler 2004) describes how individuals disclose more online than they would in a face-to-face situation. Suler (2004) explains that the freedom of expression shown by individuals is supported by, but not limited to, the degree of invisibility and the ability to conceal their identity. That is, individuals can hide behind the text they write or the username they use online. As a result, the individual may reveal more about themselves online through there being no visible association with their true, offline, self. The greater the ability to conceal identity and remain invisible the greater the effect. Within the findings of this sample, the effect has not occurred. Contributors are interacting with a largely unknown public audience and, counter to the effect, are disclosing

aspects of their personal lives together with identifiable images of themselves. They are not hiding behind text. The effect concludes that communications are uninhibited by a mix of anonymity, invisibility and disassociation from a visually public self. However, it is important to consider that the sample presented here suggests that the effect changes when the self becomes visually public through the medium of video. Since the contributor is visible, there is little point in concealing many demographic details; the viewer is able to ascertain a proportion of these details from the visual alone. This could explain why "demographics on self" features so highly; contributors may feel they should provide a name, or otherwise, to go with the person being seen. However, whilst a contributor cannot entirely hide behind a veil of anonymity, they can still choose to hide or reveal other aspects of their lives. For example, they could conceal their experiences and opinions which will provide the viewer with a greater understanding of them as a person.

When disclosing "demographics on others", the level of detail also varied. In some cases contributors simply mentioned a first name, whereas in others they discussed a third person in more detail, as illustrated.

> *"My best friend transitioned from male to female, his name was [first name] and we grew up in a small town in the mountains of [county] called [town name]" (P80)*

In this example the disclosure could be seen as fairly revealing for the transsexual, especially if the town is fairly small as it could make them quite identifiable. In cases where only the first name of the third person was disclosed, they are able to remain predominantly anonymous to those who are not familiar with the contributor in an offline environment. Others discuss those very much in the public eye, such as musicians, politicians and so forth and, therefore, much of the disclosure is of information already in the public domain. In some cases

the contributor was found to disclose information on others and provide a photograph of them on screen simultaneously. However, it should be noted that this type of disclosure was only found with regard to memorial declarations for those who have committed suicide. Additionally, in these cases the identity of the person has usually already been made public by the media. These findings would imply a level of etiquette within the LGBT YouTube community. Contributors were found to be consciously discreet about the details of others not in the public domain, thus protecting their right to privacy. However, there is no clear reason as to why this is the case other than courtesy. It could be that as these videos are personal narratives, the contributor may simply be focused more so on themselves and their own story. Consequently, detailed discussions about others who the viewers may not know could add little to, or detract from, their own narratives and are, therefore, omitted.

Contributors were also found to provide the viewers with information relating to wider areas within the context of LGBT issues. This information includes statistical findings, laws or simply information they felt the viewer would find useful. "Information for others" was found to be the most prevalent code within the "information" theme, and it emerged in 81.11% (n=73) of all videos analysed. The following example illustrates the information contributors have been found to provide.

> *"LGBT youth from highly rejecting families are more than 8 times likely to have attempted suicide" (P17)*

The prevalence of "information for others" across the videos demonstrates that contributors are utilising YouTube as a means of disseminating information and knowledge. However, in a handful of cases, 8.89% (n=8), contributors are also using YouTube to solicit information. Requests varied between short passing

comments, such as asking viewers to comment on the video, to more detailed and lengthy questions, as illustrated below.

"So let me know what you guys think, let me know how that day went, the wear purple day, if it worked for anywhere you went, your school, your work or what you think about it and what you think about would you be willing to go out to schools or in your community and speak out against LGBT bullying? Let me know." (P26)

Whilst contributors have been found to openly discuss a variety of information, no cases were found of the contributor seeking advice. Rather, contributors were found to simply seek engagement from the viewer as illustrated above. There could be a desire to want to interact more with the viewers and understand their opinions on a particular item. Alternatively, they could simply want to increase the number of comments on their videos in an effort to make their videos appear more popular, as such soliciting information as an attention seeking exercise.

In addition, advertisement was found to be a popular method by which contributors chose to disseminate information with almost half, 45.56% (n=41), of all the videos analysed containing this code. Both individuals and those representing organisations advertised various products and services. These range from support help lines to online repositories of further information on a particular topic. It is important to note the difference here between information for others and advertisement. Information for others is where the contributor directly provides the information to the viewer. Advertisement, on the other hand, is focused on those instances where the contributor simply provides details of a third party where the viewer can seek further information or support.

3.2.5. Disclosing experience and opinion via YouTube videos

As discussed, during the data collection videos tagged with the word 'bullying' were collected. Just over half, 51.11% (n=46), of all the videos analysed contained disclosure of bullying experience. Whilst not all contributors were found to disclose their own or other's experiences of bullying, the tag could have been used to represent the wider context of bullying within the video. For example, the dissemination of information on support services for victims.
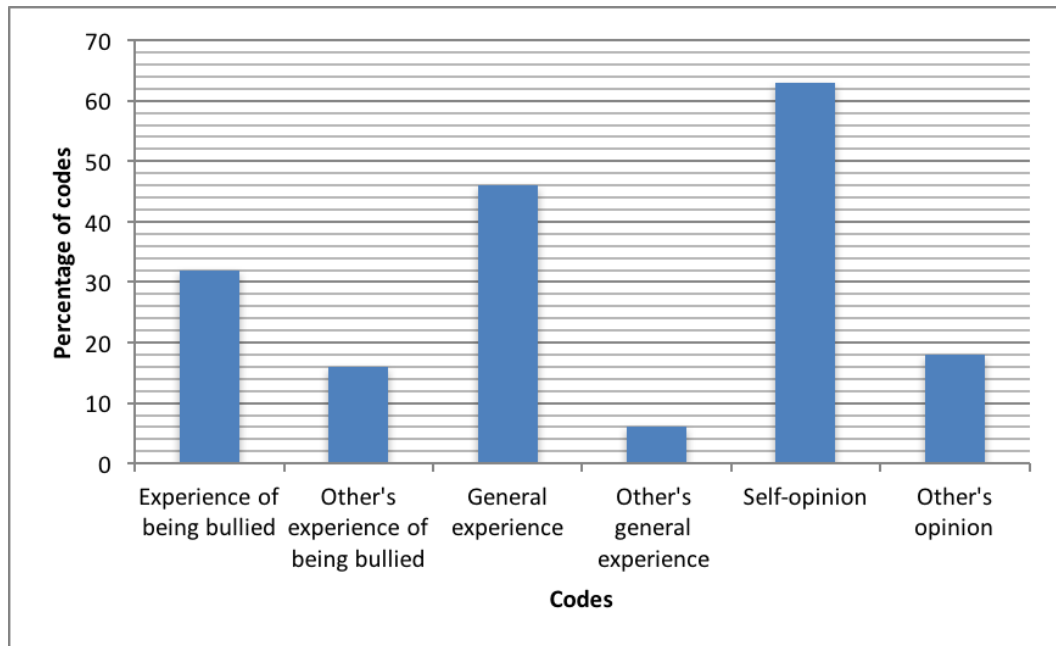
Figure 2: The distribution of unique codes within the Experience and Opinion themes

Contributors openly discussed their own experiences of bullying as well as those of others. Just under a third, 31.58% (n=36), of the codes within the "Experience" theme were related to contributors talking about their own experience of bullying. There were 15.79% (n=18) instances of contributors describing the bullying experience of others. Both traditional and cyber forms of bullying were found to be discussed within the sample. In the following excerpt, the contributor discusses a traditional form of bullying during their school years due to being gay, even though at the time they had not come out. This example highlights how repetition of the act plays a role in defining bullying behaviour.

"I was pushed around a lot, slapped in the head, my books were destroyed, my locker was vandalised, my head was banged against the locker and I could look forward to that everyday." (P15)

The bullying experience of others was found to be more prominent when discussing those who have committed suicide. An example of such disclosure can be seen in the following discussion between a mother (M) and father (F).

M: "His ear was flicked, paper wads were thrown at him, stuff was shoved into his hoodie, he was shoved into lockers"
F: "poked in the back with pencils, constant verbal abuse, threatened with assault daily"
M: "called faggot, homo, queer, gay"
F: "well he was ordered to shoot himself by these two bullies from that class for at least two months from what the students were telling us, that's how vicious the bullying was"
M: "and so he did." (P65)

There could be any number of reasons as to why a contributor feels the need to, or even wants to, disclose details of their own torment as well as that of others in an online community. A possible reason could be to seek solidarity and engagement from viewers via commenting to help provide closure or support. Krasnova et al (2010) discuss the perceived benefits and privacy risks as factors in deciding whether to disclose information in online social networks. Through their online study they found the desire to maintain relationships online to be an important benefit in self-disclosure together with a desire to build friendships and to seek enjoyment. However, they did find perceived privacy risk to have a significant negative impact on the level of information disclosed but this was still outweighed by the perceived benefit. It could be surmised that whilst the disclosures found in the present study are of a very personal nature, contributors

feel that through making such statements they will maintain their relationship within the YouTube community. Furthermore, it could allow the contributor the opportunity to form new friendships with others who have been, or are currently, in a similar situation. Therefore, the benefit and desire for support from another person outside of the physical video could be a contributing factor in the decision to disclose such information.

When discussing cyberbullying, contributors were found to include evidence of the hostile behaviour they had been subjected to. In one case a video snippet of the perpetrator carrying out their act of aggression was included within the contributor's own video. Additionally, the same video, as well as another, included a screen shot showing a hostile comment received by the contributor. The first of the following examples shows the dialogue from the video snippet, whilst the second is from the screen shot image of the comment received.

> *"Everybody here on YouTube has decided that you should go ahead and just off yourself, can you read my lips off yourself" (P75)*
> *"Homosexual. Faggot. Queer. Need I go on." (P84)*

The identification of hostile behaviour through the use of insulting language, commonly referred to as 'flaming', supports the findings of Moor, Heuvelman and Verleur (2010) when investigating online commenting on YouTube. Although this finding is an isolated case within the sample, it highlights that flaming is not restricted to any one method of communication. Admittedly, the practice of flaming via video is probably highly unusual, as the perpetrator cannot remain as anonymous as they could in a text-based scenario. Therefore, the act of flaming may be lower due to a higher chance of repercussion should the perpetrator be identified.

The cyberbullying experience of others was also found to be the topic of discussion within the study sample.

"He was outed as being gay on the Internet and he killed himself" (P1)

The details outlined by contributors with regard to other's experience of both bullying and cyberbullying highlights the harsh reality that these social phenomena can have on a person. This is evidenced by the reported suicides of teenagers due to cyberbullying on social networking site *ask.fm* during 2013. The ability to remain relatively anonymous within social media makes it easier for perpetrators to target their victims with minimal repercussion. The disclosure within the study sample that the single act of cyberbullying resulted in the suicide of an individual supports the work of Dooley, Pyżalski, and Cross (2009) and Grigg (2010), who concluded that the number of times a single act of aggression online is viewed needs to be considered when defining cyberbullying. The on-going humiliation of the single online act can have an equally traumatic impact on a person due to the large potential audience witnessing the act.

This study has identified that contributors are happy to openly discuss their own personal experiences of bullying as well those of others. They do not simply state that they have been the victim of bullying or cyberbullying but instead choose to explain in a narrative format the details of the victimisation. Such disclosure is interesting as the contributor is choosing to make these detailed statements of a personal experience to an unknown public audience without any visible hesitation or anonymity. Clearly contributors feel comfortable in discussing personal experiences via video, perhaps because they can disassociate from the reality of speaking to someone about their experiences and feelings in a face-to-face situation. Video provides an avenue to reach out to others in a personal way without having to speak to a person directly. This study found that traditional bullying experience was discussed in more depth than cyberbullying experience.

Those who chose to disclose their own personal experience of cyberbullying often did so through showing the act(s) of cyberbullying towards them, or simply stating that an unknown person had directed hate speech at them online. Narratives of traditional bullying are more personal in their disclosure and emotionally more powerful. Since the contributor does not have physical documentation, such as an online comment, to show to the viewer of the video they instead consciously describe the physical torment they experienced. This allows the contributor to more visibly express the emotional pain the bullying caused them which may not be possible via other means, such as text based communication. Additionally this helps to highlight to the viewer the actual torment people suffer which is not achieved by simply saying one was bullied. Contributors may choose not to disclose cyberbullying experience as much as traditional bullying as they do not wish to discuss it in such a visible way for fear of being cyberbullied further.

Contributors were also found to speak candidly about their own general experience, with this code present in 46% (n=53) of videos. This covers all life experiences aside from those focused on bullying. Consequently, the content of this code tends to vary, both in terms of the level of disclosure and the type of experience. Two examples of general experience from the data set are given below.

> *"When I finally did come out and start to transition I realised I had been hiding a huge part of myself... I'm finally me" (P48)*

> *"I would go home each night and lie on the couch because I felt so alone." (P8)*

As highlighted in these examples, we can see that contributors are happy to openly discuss their experiences and past feelings. Through disclosing this

personal information the contributor is reaching out to the viewer and hoping to connect with them, explaining what they experienced and how their lives progressed. In addition, contributors may seek and provide empathy from the viewer. They could want viewers to empathise with them because the actions they have been subjected to are clearly wrong, whilst at the same time they are showing others that they are not alone and know what it is like to go through such torment. This could be seen as providing an element of social support to the viewers through allowing them to identify that they are not alone in their experiences. However this assumes that those watching the video are in a similar position or they can relate to the experience.

Discussion of the coming out story was found to be a popular topic amongst contributors when speaking about general experience. This again could be seen as a way for the contributor to reach out to the viewer whilst at the same time allowing the contributor to affirm his or her own sexual identity. Whilst these disclosures are only part of varied videos, this finding supports the work of Alexander and Losh (2010) who discussed the role of the coming-out video in the context of online identity. The findings from this study would support their conclusion that disclosure of the coming out story is still a popular tool in forming identity online. This is also consistent with the findings of Munt, Bassett and O'Riordan (2002) when analysing the coming-out narratives of lesbians in a text-based online community.

The division of codes within this theme demonstrates that within our sample those who spoke about general experience did more so in relation to themselves (53 instances out of 90 videos), rather than others (7 instances out of 90 videos). When speaking about the AIDS crisis a contributor noted:

> *"I remember a young faculty person who had been recruited from another [University], on his death bed he pleaded don't tell them why I'm dying" (P53)*

Whilst not revealing the identity of the third party, the contributor discloses the person's experience of dying. Also, when discussing an event that occurred approximately 30 years ago, one contributor revealed the treatment of a colleague for being gay.

> *"We actually had a gentleman in London who was sacked by the then Inner London Education Authority for coming out to his students." (P41)*

Not only do these examples show that contributors utilise video-mediated communication to inform but also to educate viewers on the feelings and attitudes at the time. An area in which this code is prominent is when contributors discuss the actions of those no longer here, as demonstrated in the following example.

> *"[Name] decided he just couldn't reconcile the fact that he was gay with what was expected of him in life and he shot himself" (P80)*

These findings would suggest that those who contribute to online video, with regards to both bullying and LGBT issues, choose to do so in order to disseminate their own personal experiences more so than those of others. Therefore, this method of CMC is a personal one, even though the communication method is public and widely accessible.

In addition to the disclosure of experiences contributors were also found to disclose their own opinions, and in some cases the opinions of others. Over half, 63.33% (n=57), of all the videos analysed in this study contain instances of contributors disclosing their own opinions to the viewer. This equates to 78.08% of all of the codes within the "opinion" theme. A contributor stating their opinion is illustrated in the following example.

"There are teachers out there who are just as bad as students when it comes to bullying gay people, they don't do anything when they hear about a student who is being bullied for being gay or anything like that." (P3)

However, as was the case with disclosures of other's general experience, the disclosure of other's opinions is much lower within the study sample. Only 17.78% (n=16) of videos were found to contain instances of "other's opinion". While speaking about the actions of a US Senator one contributor informed the viewer of the Senator's opinion, below, to reinforce their video message.

"The Senator who thinks gays should live in the shadows and not serve openly in the military and not get married" (P29)

Given that the focus of this research study is on personal narratives it is not surprising that self-opinion is prevalent amongst the videos. Opinion is another facet of the contributor's identity that they have chosen to disclose; it provides the viewer with more information about that person and how they view certain aspects of life. The disclosure of other's opinions needs to be carefully considered by the viewer. Other's opinions could have been misinterpreted and, therefore, the opinion presented by the contributor may not be entirely accurate.

3.2.6. Additional themes within LGBT video content

Whilst the identified themes focus on experience, opinion and information dissemination there were also instances surrounding beliefs, empathy and exhortation. "Empathy", the ability to understand another's feelings and show compassion, was found in 34.44% (n=31) of videos within the sample.

"I want anyone out there who feels different and alone to know that I know how you feel" (P1)

The previous example highlights that contributors are using video as a way of reaching out to the viewer. However, it is important to note that "empathy" accounts for just over a third of the videos in the sample. It could be that contributors show empathy through the disclosure of experience, whilst viewers show empathy through the comments they leave. Contributors carrying out acts of exhortation ("exhortation"), actively encouraging someone to do something, were found to feature in just under half of the videos within the sample, 48.89% (n=44). An example is given below.

"Take ownership of being who you are" (P17)

Religion can be a contentious subject when related to the LGBT community. This could explain why the prevalence of "beliefs" amongst the sample is very small with just 7.78% (n=7) of videos containing an aspect of religion. Of those contributors who did disclose their "religious beliefs", 3.33% (n=3), the disclosure often related to finding a way to be accepted, as illustrated in the following example.

"There were so many nights when I would actually pray to God, that he [would] make me straight so that my mum would actually love me" (P47)

This example not only provides the viewer with the additional knowledge that the contributor believes in a God but also of the desire they have to feel loved by their parent for who they truly are. The disclosure of other's religious beliefs was found in 4.44% (n=4) videos within the sample. Contributors were most often found to briefly discuss the beliefs of others, usually family members, in a very cursory fashion as shown in the example below.

"I had one very Catholic family, my mother's very much into the church" (P41)

Due to the low prevalence of belief information within the videos it is difficult to draw any firm conclusions as to why contributors chose to disclose this information about themselves or others. A possible reason for this disclosure could be that the contributor is indirectly reaching out to the viewer to seek support, similar to that when disclosing bullying experience.

3.2.7. Summary of findings

The key findings from this chapter are:

- The online disinhibition effect (Suler 2004) was found to alter for online video-based communication; a finding which has relatively little to no discussion in the existing literature. Contributors were found to openly discuss personal details about themselves and their experiences in a non-anonymous manner contrary to the effect. This could be due to them being visible and as a result feeling as though there is little point concealing details which can be ascertained from the visual alone.

- Physical bullying was discussed more widely in the sample than cyberbullying experience and in both cases these narratives were very personal. Importantly, the narratives of cyberbullying present in the sample reinforce previous research (Dooley, Pyżalski and Cross 2009; Grigg 2010), which has highlighted the need to consider the number of times a single act of online aggression is witnessed when defining impact.

- Online video can be seen as providing a place in which the LGBT community can openly discuss their feelings and as a means by which to seek and provide empathy and support. Krasnova et al. (2010) identified the perceived benefits for disclosure in online text-based communities to outweigh the perceived risk. The findings of this study build on this work and suggest that the effect extends to video-based communication. The perceived benefit of making such disclosures combined with the disassociation from a face-to-face conversation outweighs any perceived risks from making such disclosures.

3.3. Conclusion

The purpose of this analysis was to understand the way in which the LGBT community engage in online video-mediated communication. Focus was placed on the discussion of topics around the theme of bullying as this was identified as being both a concern in the LGBT community and a phenomenon that has gained increased awareness through online video campaigns. Thematic analysis provided a useful overview into the content of online videos focused on LGBT issues and the possible reasons for these disclosures have been discussed.

The next chapter investigates the use of personal, offline, video-mediated communication amongst a sub-set of members from the LGBT community to provide a deeper insight into this community. Focus is also extended to the technologies used to facilitate personal disclosures in video.

Chapter 4: Exploring the use of wearable and handheld devices for capturing point-of-view video diaries amongst gay men and lesbians

The previous chapter reported the findings from a qualitative study of online videos focused on discussions of LGBT issues, specifically bullying. The study provided an insight into how members of the LGBT community and allies utilise VMC to disclose personal information in a public online space, with a visual self. Additionally, it discussed how the videos could be viewed as acts of pro-social behaviour, offering support to a largely unknown public audience through the disclosure of self-experience. Whilst the previous chapter focused on the online LGBT community, this chapter focuses on a smaller sub-set of the offline LGBT community, specifically gay men and lesbians. Flexner (1987) defines community as a group of people sharing common traits or interests. Combining this with Day's (2006) principle of commonality (see section 2.1), the offline community referred to in this study is defined as *any individual who self-identifies as either a gay man or a lesbian.* This will allow for a more focused examination of factors pertaining to these two groups which can then be situated in the larger field of LGBT research.

Written diaries can be, and have been used as a method of self-reflection and for the exploration of everyday lives (Alaszewski 2006; Czerwinski, Horvitz and Wilhite 2004; Glaze 2002; Harvey 2011; Meth 2003; Morrison 2012; Tang 2002). Through their study of violence towards women in South Africa, Meth (2003, 200) asserts that diaries "offer the opportunity for the recording of events and emotions in their social context". Additionally, the use of photographs and other media such as audio have been explored to enhance diary studies (Bijoux and Myers 2006; Carter and Mankoff 2005; Worth 2009). Carter and Mankoff (2005, 905) conclude that for studies where detail is important, "a hybrid photo/audio capture medium is most appropriate". Building from this, video diaries (see section 2.3) are considered to provide rich sources of data (Pink 2013) which can

facilitate a greater degree of reflection and have also previously been used to examine sexualities (Holliday 2004). In particular, video diary studies have been found to situate the participant in front of the camera (Brown et al. 2010; Holliday 2004; Iivari et al. 2014; Katzeff and Ware 2006; Noyes 2004). Although head-mounted video has been reported to provide new perspectives into social worlds and experience (Brown, Dilley and Marshall 2008). Furthermore, existing research into the use of video on wearable devices has predominantly been confined to medical and sport applications (see section 2.3.1). Therefore, both the effect of placing the participant behind the camera to provide a point-of-view video diary, and the role wearable devices can play in capturing this content, warrant further exploration.

Consequently, this chapter focuses on investigating the content participants who self-identified as gay men and lesbians disclose as they reflect on their lived experience from a personal, offline, context. Lived experience is an understanding of human experience in a reflective structure (Given 2008; Van Manen 1990). In addition, Given (2008) asserts that these experiences are shaped by factors including race, gender, and sexuality. In this study, lived experience is defined as *the experience a research participant has lived through and how they have responded to that experience*. The analysis of personal, point-of-view, video diaries facilitated through the use of wearable and handheld devices, reveals how disclosure changes when the individual is not speaking directly to the camera, as is the case in most online videos, and the video remains as a private memoir. Furthermore, demographic data allows for the deeper exploration and analysis of differences between the disclosures of men and women. The technological and acceptability considerations surrounding wearable and handheld devices with regards to video diary capture are discussed in Chapter 5.

The aims of this study were to:

1. Explore how gay men and lesbians use video on Google Glass and smartphone to capture personal reflections and observations.
2. Identify what content gay men and lesbians discuss in short videos.
3. Identify the environment in which gay men and lesbians record their reflections and observations.
4. Identify differences in content between sexes.
5. Investigate how the level of disclosure via Google Glass varies to those using smartphone.

4.1. Methodology

4.1.1. Data collection

Calls for participation were sent out via University and local LGBT community mailing lists, and posted online in the *LGBT Kent* Facebook group and *Out Nation* forum. In all, thirty self-identified gay men and lesbians (20 males, 10 females) were recruited to participate in the study between January and August 2015. Women were found to be less inclined to participate, however a specific reason for this reluctance is not clear. To allow for the comparison between wearable and handheld devices the participants were split into two groups. Glass (Figure 3) was selected as the wearable device as it is positioned at eye level, is worn like a pair of glasses so should be comfortable and un-invasive, allows the user to easily view what is being recorded, and should allow for the easy capture of point-of-view video with minimal interaction. Furthermore, Glass was very topical at the time, having attracted a lot of media coverage since its UK release in mid 2014. Although Glass has been withdrawn from sale in its current form, augmented reality headsets and wearable devices are constantly being explored by technology companies. As such, devices like Glass will be an important form of wearable in the future.

Figure 3: Google Glass Explorer Edition, wearable computing device

In contrast, other wearable devices such as MeCam and GoPro Cameras were felt to require a higher degree of participant involvement in order to capture the required content. For example, a MeCam would be clipped somewhere about the body and may need to be moved or held to point the right way for filming. Furthermore, the mountable and sizeable nature of the GoPro could be obtrusive. As a result, these factors could impact on the spontaneous nature of recording reflections and observations as they occur using a wearable device. Smartphone was selected as the handheld device due to its portability and familiarity in society.

Each participant was assigned to either the Glass or smartphone group, however, due to the nature of Glass being worn in the same location as glasses participants were able to express a preference to which device would work best for them. Alaszewski (2006) stresses the importance of providing clear guidance surrounding what is being requested when carrying out a diary study. Therefore, each participant was required to attend a briefing session at which point informed consent was obtained, and a unique ID number assigned. For those in the Glass group a 30-minute training session was provided on how to use the device. During the session participants were shown how to turn the device on and off, charge the device, position the display, swipe between and select menu

options using the side-mounted touch pad, and record and view back videos. Participants were also advised not to wear the device whilst charging should it become warm, and not to use it in wet weather. Additionally, participants were able to use the device for at least half a day before beginning the study to ensure familiarity and to reduce any novelty effect. Those in the smartphone group were required to use their own smartphone, as this would be a device they were familiar with. Participants were requested to record a series of short videos, over a 1 to 2-day period, about their experiences, reflections and observations, as a lesbian or gay man, as they went about their daily business. They were encouraged to film outside and instructed to record the object, item, or location of interest and narrate over the top. It was stipulated that videos were at least 10 seconds in duration, to help ensure each video had meaningful content, and that up to an hour's worth of video was captured. Additionally, no upper limit on video duration or on how many videos needed to be produced was set. Due to the point-of-view nature of the recordings participants were requested not to purposefully record others for ethical reasons. The full participant information sheet can be found in Appendix C. For those using Glass they could return their recordings on the device, those using their personal smartphone were issued with a high-capacity memory stick to return their videos. Participants were reimbursed with a £10 shopping voucher for their participation.

Prior to the start of the study, ethical approval was obtained from the University of Kent's Faculty Research Ethics Committee.

4.1.2. Analysis

Similarly to the study outlined in Chapter 3, a grounded theory (Strauss and Corbin 1998) methodology was adopted for this study to allow for the close analysis of content to reveal patterns and concepts, and to allow for a hypothesis to emerge from the data. This approach allows greater insight and enhanced understanding of data due to there being no preconceived assumptions, and has

previously been adopted by others analysing video content (Rotman and Preece 2010, Molyneaux et al 2008a, Morgan et al 2007, Xiao et al. 2004). An inductive thematic analysis conducted within a constructionist framework (Braun and Clarke 2006), identifying and examining latent themes, was employed together with content analysis to allow for the identification of instances of these themes and to allow for the discussion of meaning. A thematic approach has been previously adopted by others analysing both written and video diaries (Harvey 2011; Katzeff and Ware 2006).

In total, 337 videos were returned and these were each watched twice to ensure familiarisation before coding. During this process any videos found to be wholly inaudible due to background noise, the purposeful recording of others, or were the result of accidental filming, such as whilst carrying the Glass device by hand, were removed from the sample. This resulted in 317 videos for analysis that were watched a third time and notes describing the content made. Consecutive themes that shared the same interpretation were taken as one unit and coded into a single code, ensuring that the context of what was being said by each participant was retained. Videos could contain one or more codes and areas of prolonged silence were un-coded. The resulting collection of notes were grouped into coding categories and the coding process repeated with a random sample of 60 videos. This process continued with the sample of videos until saturation point was reached where no new codes were found, and the data could be coded with the existing codes. The resulting codes were then grouped into themes and an information sheet (Table 2) defining each code developed. Additionally, consideration was given to the visual content of the video diaries, with this content being classified at a top-level in terms of location, relevance to spoken content, and degree of privacy. Visual content was classified per video, taking each as one code unit, therefore each video contained three visual classifiers. An information table (Table 7) describing the classifiers was also developed.

To ensure inter-coder reliability, two independent researchers each coded a sample of 32 videos for both visual and verbal content. Feedback from the researchers was used to refine the descriptive aspects of the coding scheme for verbal content and the sample was recoded. Cohen's Kappa was calculated at 0.74 for verbal content and 0.85 for visual content, both of which are considered substantial (Landis and Koch 1977). Following the establishment of coding agreement across verbal and visual content, all 317 videos were coded and analysed using qualitative data analysis software NVivo.

4.2. Findings and discussion

In this section the results from the analysis of the 317 video diaries are presented.

4.2.1. The videos and participants

Overall, the 30 participants ranged from 20 to 52 years of age (mean = 29.23, σ = 8.32) and were located across a wide geographical area including Cornwall, Kent, London, Norfolk and Sussex. Women accounted for one-third (n=10) of all participants and were split equally between the two groups. The mean ages were 26.93 (σ = 9.53) and 31.53 (σ = 6.41) for the Glass and smartphone groups respectively. The difference in age between the two groups is due to participants being assigned to a group solely based on sex and any preference to device as described under section 4.1.1.

The 317 analysed videos had a combined running time of 21 hours 8 minutes and 49 seconds with a mean video duration of 4 minutes. Each participant supplied between 2 and 40 videos (mean = 10.57, σ = 7.99) with a mean combined video duration per participant of 42 minutes.

4.2.2. Coding scheme for verbal content

In total seventeen codes were identified and grouped into six themes. The coding scheme is summarised in Table 2.

Theme	Codes	Description
Isolation from society	Lack of acceptance	Video units in which participants focus on the lack of acceptance in society; can be politically or socially driven.
	LGBT representation	Video units focus on the lack of representation or negative portrayal of LGBT persons in society or the media.
	Stereotypes	Video units focus on the stereotyping of gay men and lesbians.
Comfort with identity	Coming-out	Video units in which participants disclose their coming-out experience.
	Self-reflection	Video units in which participants reflect on themselves and/or their lives.
	Belonging	Video units in which participants focus on positive feelings of acceptance.
Engagement with gay culture	Gay dating applications	Video units focus on gay dating/meet-up applications.
	The 'scene'	Video units focus on aspects of the gay scene. E.g. gay bars, social groups and events.
Lifestyle	Work	Video units focus on work/voluntary roles.
	Behaviour	Video units focus on behaviour.
	Religion	Video units focus on religion.
	Relationships and family	Video units focus on personal relationships or the family unit.
Wellbeing	Physical health	Video units focus on physical health, e.g. gym or illness.
	Mental health	Video units focus on mental health, e.g. depression or anxiety.
General narrative	Reflection on media	Video units that focus on the media in general; can be offline or online based.
	Other commentary	Video units that focus on other topics.
	Metacommentary	Video units that focus on the study itself.

Table 2: Coding scheme for the verbal content of each video

4.2.3. Distribution of codes

Of the six identified themes, "Lifestyle" was found to be the most prevalent with 27.89% (n=128) instances across the dataset. This is followed by "General narrative" 23.97% (n=110), "Comfort with identity" 20.92% (n=96), "Isolation from society" 15.03% (n=69), "Engagement with gay culture" 6.32% (n=29), and "Wellbeing" 5.88% (n=27).
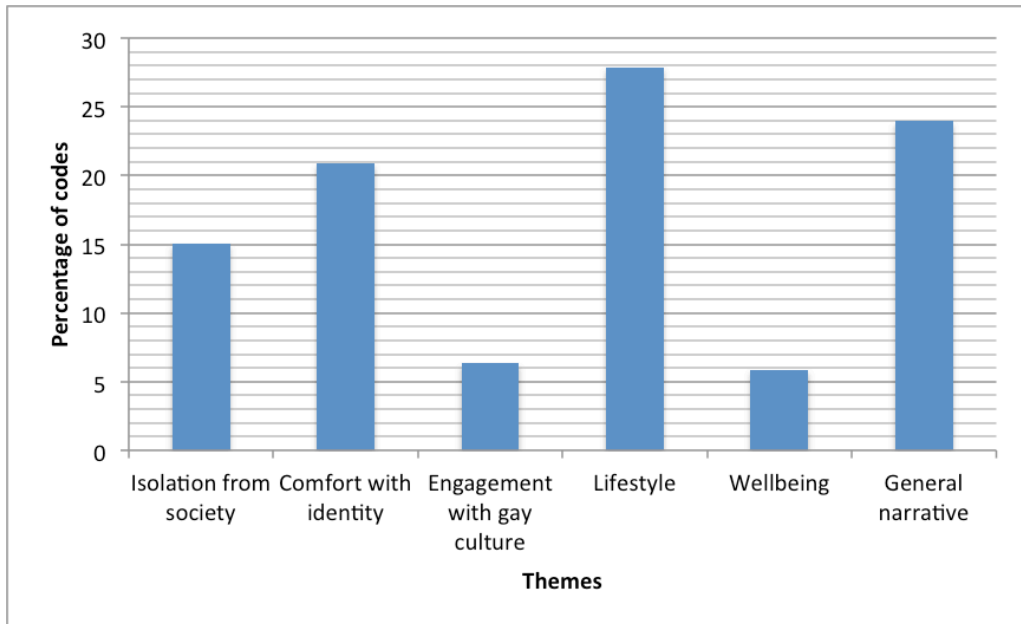
Figure 4: The distribution of themes across the video diary dataset

Examining the individual codes across the dataset identified "Self-reflection" as the most prevalent with 12.47% (n=62) instances, see Figure 5. Other codes that featured highly in the dataset include "Other commentary" 11.27% (n=56), "Lack of acceptance" 10.87% (n=54), and "Behaviour" 10.87% (n=54). "Stereotypes" and "Religion" featured the least with 1.61% (n=8) instances each.
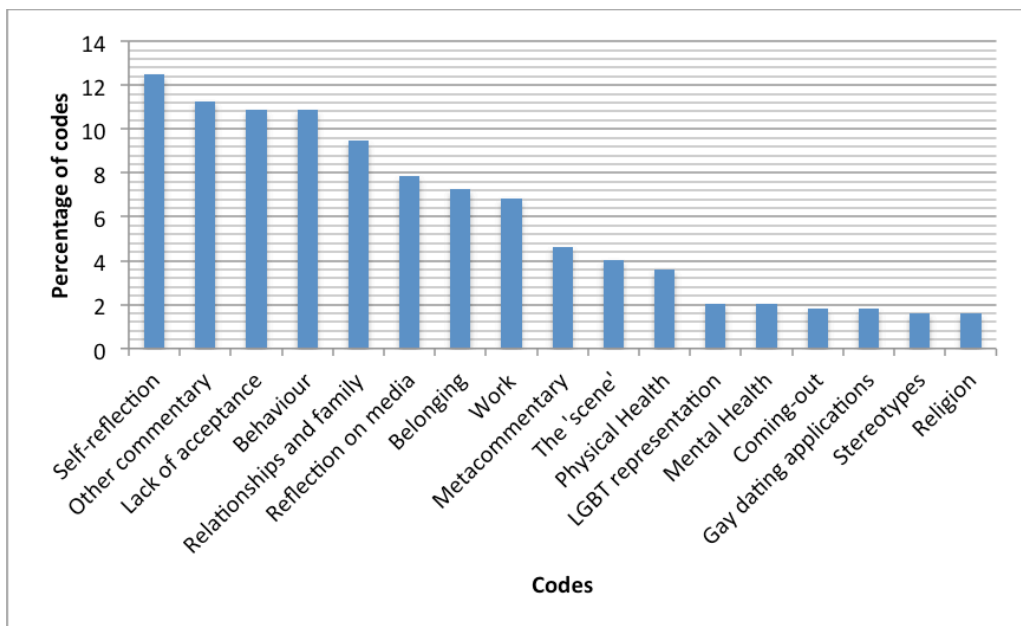
Figure 5: The distribution of codes across the video diary dataset

However, as the amount of content recorded by each participant varied greatly, it would only take one or two participants with a larger amount of content, to cover the same codes multiple times for those codes to feature more highly. Therefore, it would be inappropriate to make any firm conclusions based on code prevalence alone, as it may not be truly representative of all participants. As a result, the analysis will now turn to look at code prevalence with regards to the number of participants who disclosed content related to each code. Examining the codes in this regard reveals "Relationships and family" to be the most prevalent, occurring across 76.67% (n=23) of all participants. This is closely followed by "Lack of acceptance" 73.33% (n=22) and "Self-reflection" 70% (n=21). Religion was the least prevalent, occurring in the video diaries of 13.33% (n=4) of participants.
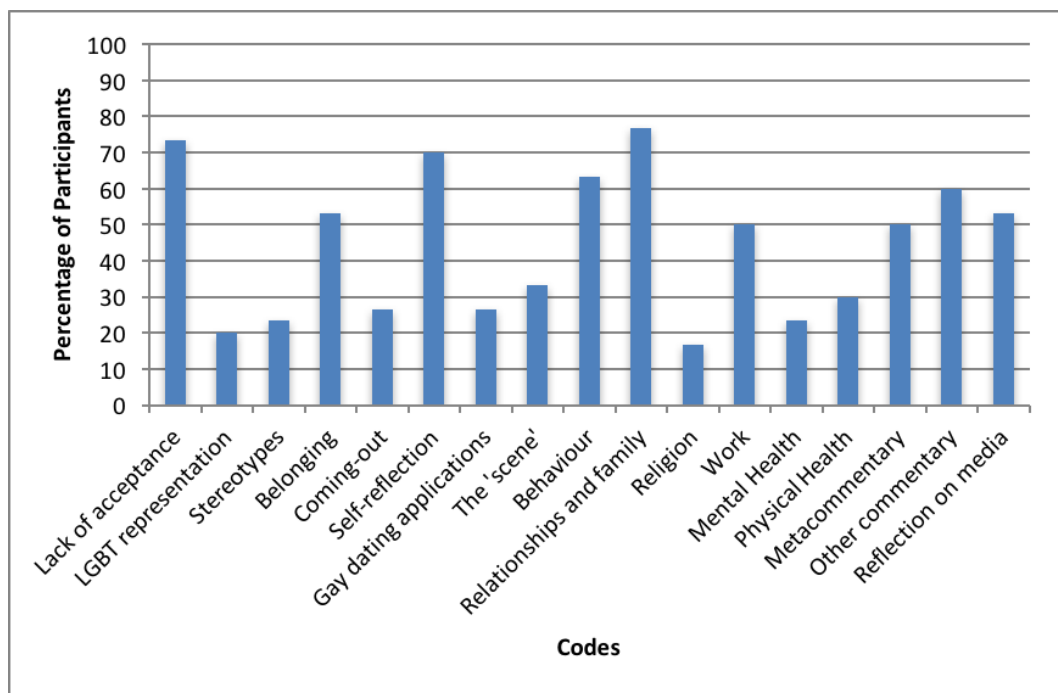
Figure 6: The distribution of video diary codes across individual participants

4.2.4. Isolation from society

Over the past few years there has been an increase in the affordance of equal rights for those who identify as non-heterosexual, particularly with the passing of the Equality Act of 2010 and Marriage (Same Sex Couples) Act of 2013 in the United Kingdom. Furthermore, in 2000 the European Commission adopted a directive banning discrimination on the basis of sexual orientation in the workplace. They have also published a list of actions to advance LGBT equality over the next three years (European Commission 2016). Therefore, it could be easily assumed that those who identify as homosexual would feel more accepted in society through being legally recognised. However, the identification of content focused on lack of acceptance from over two-thirds, 73.33% (n=22), of the participants would suggest that there is still an underlying aspect in the gay and lesbian community of not feeling entirely accepted. Previous research has investigated attitudes towards those who identify as homosexual, with consideration given to the influence of gender, religious affiliation and ethnicity (Adamczyk and Pitt 2009; Hendren and Blank 2009; Reese, Steffens and Jonas 2014; Steffens and Wagner 2004). A common finding from this scholarly work has been that behaviour towards those perceived to be gay or lesbian is more negative in nature. Similarly, within the findings of this study, "Lack of acceptance" was spoken about with regard to participant's experience of negative attitudes from others. Moreover, in these findings there is a degree of personal connectedness between the participant and the individual(s) with the negative attitude, such as a family member. This supports the work of Sakallı and Uğurlu (2002, 57-9) who identified "probable family ties with homosexuals" to be an influencing factor towards negative attitudes. In the following example a participant reflects back on their childhood and the impact identifying as gay had.

"Growing up, yeah, it was hard being gay, I felt very invisible because I grew up in a Greek-Cypriot family where to be gay not only was a taboo but it essentially meant that you would be socially ostracised"
(P21, male, age 28, smartphone, filmed at home)

Whilst this participant points to their family background as an influencing factor in acceptance this was not found to be a prominent reason given within the sample. Furthermore, when speaking about their family's current negative attitude towards non-heterosexuals, another participant was found to reflect on their own identity. They discussed how disclosure of their sexual identity could have negative implications on their interpersonal relationships because of others' lack of acceptance, ending their monologue with the following poignant excerpt.

"If I could choose not to be gay I would."
(P14, male, age 23, Glass, filmed in parkland with no visible public present)

These examples highlight how others' attitudes, particularly those from family, are a contributing factor to feelings of not being accepted in society, and, although an isolated case in this study, potentially how cultural background can play a part in this. Additionally, they show how the feelings of rejection once felt in childhood can still manifest themselves in the present day.

Participants also discussed the impact of political influences on the gay and lesbian community. When reflecting on local and government elections participants noted the following about the UKIP party:

"[They have] quite homophobic policies, they're opposed to same-sex marriage, they're dismissive of anything related to equality as being political correctness gone mad etc."
(P4, male, age 45, Glass, filmed at a train station on the way home)

"I'm really, really hoping that [UKIP] don't get in because I feel like that would be quite detrimental to my identity as a lesbian, they're wanting to repeal the same-sex marriage act"
(P10, female, age 23, Glass, filmed looking at a UKIP flyer)

Additionally, the following excerpt from a participant reflecting on an article in a popular foreign newspaper, highlighted the influence journalists can have on making non-heterosexuals feel unaccepted.

"a quite famous, well infamous columnist . . . he wrote this article the day after the Luxembourg Prime Minster got married to his partner who happens to be a man . . . a bit of slur at the beginning like 'oh well I'm a bit sorry that he wasn't wearing a pink glittery dress' . . . he can't give a shit about the day against homophobia . . . [he says] he doesn't have to clap for the decay and decline of the rotting western world, and like there are sentences like 'you can be faggots, you can do your stuff as you like [but] never ever try to get us into this because this is disgusting'"
(P12, male, age 20, Glass, filmed looking at online news article)

These examples demonstrate that feelings of not belonging are not just the product of the attitudes in one's family unit but can also be socially constructed through the views and preferences of those in positions of power. The use of video was mixed in these discussions, as noted in the previous examples. Interestingly, those discussions which were focused on interpersonal relationships tended not use a neutral and unrelated visual. In contrast, in a majority of videos that focused on societal influences participants made good use of the visual aspect, often showing news articles or flyers that relate to their narrative. Here there was no clear distinction between the devices, however there is evidence that for aspects where tangible objects are available participants felt comfortable including them. This could explain why matters

pertaining to interpersonal relationships contain less relevant visual material, as showing a family attitude is not tangible and thus more challenging. In addition, the requirement of the brief not to record others would impede on any desire to capture this.

The theme of "Isolation from society" also includes the codes of "LGBT representation" and "Stereotypes". These were identified in diaries across 20.00% (n=6) and 23.33% (n=7) of participants respectively. Additionally, it was noted that these reflections came solely from those who had also expressed "Lack of acceptance" in at least one of their diaries. Female participants who spoke about "LGBT representation" focused on a lack of lesbian protagonists in the media. Male participants reflected on the existing representation of gay men in the media, feeling gay characters are over sexualised or portrayed negatively. This data shows that both representation extremes are perceived to be present in the media. Females would like to see more lesbian characters in leading positions whilst gay men, who are represented, feel they are being portrayed incorrectly. Whilst there is more legal acknowledgement for non-heterosexuals, the lack of authentic representational balance in the media for both lesbians and gay men is in effect maintaining a divide, which only serves to exemplify feelings of isolation from society. In addition, media representations on TV have been found to influence heterosexual's attitudes towards homosexuals (Levina, Waldo and Fitzgerald 2000). Therefore, it is important to ensure that representations of gay men and lesbians are not only visible but appropriate.

> *"I actually don't have a single book that has a lesbian couple in it, and it's the case of if I wanted to read one of those which I would actually quite like to have to, I would have to actually search for fiction with lesbians in it or something like that, so it makes it a bit more difficult and it's less accessible" (P6, female, age 21, Glass, filmed looking at books on a shelf)*

"I have a love-hate relationship with gay themed programmes because they are highly sexualised, I feel like they do build onto this whole political discourse that oppresses gays in a sense but at the same time they are given recognition"
(P3, male, age 21, Glass, filmed looking at a video stream of a gay themed programme on a laptop)

The code "Stereotypes" was found to focus on gender expression. Observations from females included how they are often compared to a stereotypical lesbian, a woman who manifests an appearance and behaviour commonly considered to be masculine in society.

"One of the biggest comments I get about my sexuality is around clothing and how I present myself, I think that is what I get the most comments on whether it be, you know, you come out to somebody and they go 'oh I did wonder' oh why's that 'well the checked shirts, the short hair' and that kind of stereotype that all lesbians have a uniform"
(P2, female, age 23, Glass, filmed looking at clothes in wardrobe)

Previous studies investigating stereotyping have identified gender traits typically associated with males to be assigned to lesbians (Blashill and Powlishta 2009; Geiger, Harwood and Hummert 2006). Furthermore, Blashill and Powlishta (2009) also identified the reverse of this, with gay men to be assigned roles typically associated as being more feminine. However, no men in the current study were found to comment on this. This is not to say that men never come across similar situations of social type-casting. However, the study indicates that if men do, they do not see it being of significant value to warrant reflection.

These findings not only highlight that participants are comfortable disclosing negative reflections in point-of-view video, but that they feel passionate about

these topics and the impact they have on their lives that they are compelled to document them. Consequently, the data demonstrates that the theme of "Isolation from society" is not simply driven by a singular underlying aspect which creates these feelings, but a more complex web of personal perceptions and social attitudes. Whilst there is progress to strengthen equality and promote an inclusive attitude between those who identify as non-heterosexual and those who do not, from a legislative perspective, this is not addressing, or at the very least visibly influencing, the aspects of everyday life that are contributing to these feelings of not fitting in with the wider society.
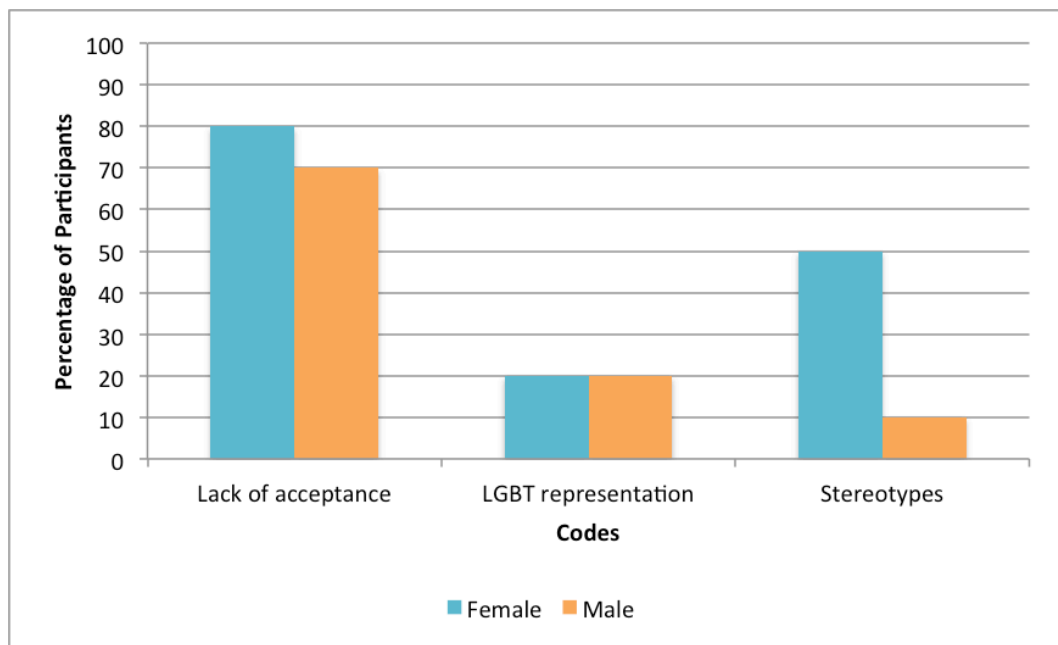
Figure 7: Distribution of codes in the 'Isolation from society' theme

4.2.5. Comfort with identity

The theme of "Comfort with identity" was found to feature in reflections from over three-quarters of participants, 83.33% (n=25). Given the focus of this study is on personal reflective diaries it is not unexpected that the code of "Self-reflection" is highly prevalent amongst the participants, 70.00% (n=21). Content comprises a variety of aspects centred on the participants and their lives, with an underlying sense of identity development.

"So this is the view of the ceiling in my childhood bedroom, in my childhood family home, it was on this ceiling that I would spend a lot of time laying on my bed staring at the patterns that I'd see, or make up patterns within the ceiling, it was such a great place to phase out and to daydream, to look up and imagine things that weren't there, so I think it was through this ceiling that I really found and invested in my own imagination, which is bizarre because it is such a blank banal place"

(P20, male, age 30, smartphone, filmed looking up at ceiling)

Whilst this narrative shows how participants reflect and describe aspects of their childhood that they feel have influenced themselves as individuals, it also demonstrates how video diaries can produce richer insights. Not only does the participant reflect on their behaviour and its impact, but also they specifically record a visual reference and draw focus to this in their narrative. Although the disclosure alone could have been recorded anywhere, at any point, the inclusion of visual association provides a marker by which the participant can look back and reflect further. Providing this visual also negates the need for an in-depth discussion about what the object in question looks like. This is similar to the way Carter and Mankoff (2005) described tangible objects, such as flowers, to be included in written diaries, to elaborate on ideas. However, with the video diary there is greater scope as to what these visuals can be. Taking this example for instance, it would be unpractical for a physical ceiling to be placed into a written diary. Whilst it could be sketched instead, this may not be as visually rich and could lack detail. Further, the point-of-view aspect of the filming allows for greater ease in including these visuals, instantly showing what the participant is looking at without the apparent need for moving the camera. In addition, self-reflection on present events was found to encompass gender expression and the perceived influence of sexuality on life.

"Having a dilemma this morning because we have new people at work and I don't want to wear something so gay on my first day, trying to find something that looks straight"
(P30, female, age 29, smartphone, filmed looking at clothes in wardrobe)

"I guess some of the things about how I feel, particularly in Kent, are linked to do with the fact I'm gay, I feel like being gay, or lesbian, is an intrinsic part of my identity, I don't know if that is a good thing or a bad thing"
(P27, female, age 32, smartphone, filmed driving to work)

These examples not only illustrate the varying nature of the reflections participants disclosed but also how the video diary, unlike a traditional written diary, facilitates the capturing in a less structured fashion. With a written diary, entries are often made retrospectively, however in the first example (P30) we can see that the entry is made as the experience is taking place. As a result, the video diary is providing a more instantaneous method of documenting thoughts without the need to think back and document views at a later time or date. Further to the verbal content, the participant filmed the clothes hanging in their wardrobe whilst making their decision. Unlike participants in Holliday's (2004) study who discussed their clothing choices directly to the camera, the point-of-view nature of these recordings allows for the discussion of these choices at point of selection. This suggests that the point-of-view style allows for a more immediate diary entry as the observation occurs. The second example (P27) provides insight into how participants use the video diary to think about themselves and the influences in their lives. Here the participant considers how their sexual identity forms part of, or even has a direct effect on, every day feelings. In contrast to the first example, the second participant does not fully utilise the visual aspect of their video diary, the reflection is recorded whilst driving with the phone attached to the windscreen and acts more as an audio record. However, in comparison to a written diary, the video diary has allowed

for the identification of the location that facilitated this disclosure, even if the visual is not relevant to the verbal content. Furthermore, the documenting of the reflection is still seen to be instantaneous which would not be possible with a written diary in this context given the act of driving. Additionally, it could suggest that visual cues are not always triggers, nor is visual content regarded as highly as verbal content, for disclosures of identity.

Whilst it has been discussed how participants reflect on elements of isolation from society they have also been found to reflect on feelings of acceptance. "Belonging" was identified in videos from just over half, 53.33% (n=16), of participants. Despite being less prevalent than "Lack of acceptance", these reflections very much provide a contrasting viewpoint from those expressed in the previous section.

"For the most part the vast majority of our friends, siblings and even grandparents actually, the older generation of the family, have been incredibly excited for us [getting married] . . . it's really nice when you see those sort of reactions that make you feel like a completely normal member of society"
(P10, female, age 23, Glass, filmed sitting at home preparing wedding favours)

"These are kind of really cool books and to have it with the main characters being lesbians . . . showing that there are role models within the lesbian community that we can look up to, I think it's really cool and like I said the adaptations on television as well, bringing it to the mass public so yeah, really cool books and really great to see lesbian characters being at the forefront which is pretty awesome"
(P2, female, age 23, Glass, filmed whilst looking through the fiction book in question)

Both of these examples highlight a benefit of using Glass to capture the video diaries. In each case the participant is able to capture their diaries hands free. In the first example (P10) the participant is putting wedding favours together, it could, therefore, be that this act made them reflect on acceptance in their family. Glass then enabled them to capture this reflection at that very moment whilst carrying on with the task at hand. Furthermore, there was no need to set up specific equipment, for example a camera and tripod, or to present themselves in front of the camera as has been the case for other video diary studies (Brown et al. 2010; Holliday 2004). This allows for a much more streamlined and instantaneous recording process. Similarly, in the second example (P2) the participant is looking through a selection of their books and again Glass enables them to be able to do this whilst recording. In contrast to smartphone, where the participant is required to physically hold the device, Glass provides a more practical solution to being able to continue with a hands on task whilst reflecting on matters connected to it. Importantly, instances of "Belonging" show how participants have felt accepted by those around them, namely friends and family. Reflections were also found to focus positively on the existence of gay and lesbian focused literature and film. Thus providing the participants with a sense of inclusion through role models and the mainstream visibility of homosexual characters. These disclosures demonstrate that whilst narratives focused on belonging are not as prevalent, both interpersonal and socially constructed situations exist that contribute to a sense of acceptance. Furthermore, this highlights that the video diary does not just lend itself to a more negative narrative, somewhat focused on complaint, but is equally used for the recording of positive reflections.

Reflections on coming-out experience where disclosed by just over a quarter, 26.67% (n=8), of participants. The coming-out narrative is a very personal journey; finding comfort in your sexual identity and then disclosing this to those around you is a significant aspect of identity development.

"It's strange to think how scared I was back then, I thought my whole life would be over"

(P18, female, age 20, smartphone, filmed indoors whilst looking through belongings)

"I struggle being out to my family, I'm pretty much out at work, my boss and close colleagues know . . . tonight my housemate, one of them, outed me to the other and it's not the first time it's happened . . . I don't mind the fact that she knows that about me, she'll have to find out at some point, I like to be myself when I'm at home"

(P30, female, age 29, smartphone, filmed in the dark at night)

In the first example (P18), the participant reflects in a contented tone on their past feelings and how they perceived their coming-out experience to be. However, as is shown in the second example (P30), there is not always a degree of control over when people find out about other's sexuality. Here the disclosure is less about feelings of a journey that was not as daunting as expected, and more a sense of anger and annoyance. Whilst it is acknowledged that the participant is happy for the individual in question to know, the reflection stands as a record of how often they have been 'outed'. The uncertainty described in the first example and the mixed feelings in the second, have been previously identified as being facets of the coming-out experience of lesbians (Markowe 2002). Although not explicitly shown, the temporal reflection in the first example was described as being triggered from the participant looking back through their belongings and finding an item that reminded them of their coming-out journey. The absence of visual material in the second example demonstrates how the participant used the diary as a sounding board, and further how there may not always be an appropriate visual. However, what is evident is that the participant has used the video diary to capture their thoughts close to the time that the incident described occurred. This has allowed for the social context in which the

event occurred to be retained, the black visual reinforcing the fact the reflection was captured at night time. Meth (2003) asserts that written diaries allow participants to record events in their social context. It can be argued that video diaries provide an additional aspect to this, not only do they allow events to be recorded in their social contexts, but also provide visual markers of that context which can be seen to reinforce the narrative. Nevertheless, the video diary serves as platform where participants feel comfortable reflecting on both past coming-out experience as well as the continued complexities of disclosing such information in the present day. Alexander and Losh (2010) discuss coming-out videos online and their role in online sexual identity management. The findings from the current study indicate that coming-out narratives are also an important aspect in personal video diaries. The diaries provide a space in which participants can reflect on and reaffirm their identity in a private setting, particularly if they are not out to everyone meaning an online video disclosure would be inappropriate.
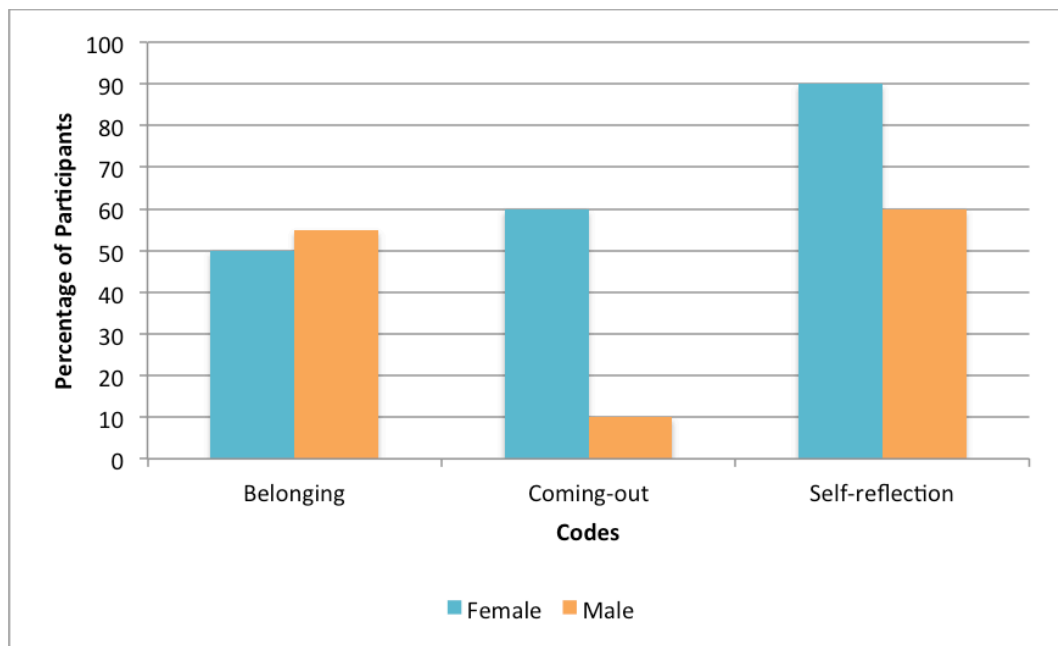
Figure 8: Distribution of codes in the 'Comfort with identity' theme

4.2.6. Lifestyle

Almost all of the participants, 93.33% (n=28), discussed at least one aspect of the theme "Lifestyle" in their video diaries. Moreover, just over three-quarters of the participants, 76.67% (n=23), discussed aspects focused on "Relationships and family". These reflections were found to encompass details of personal connections, such as between family members or those in a romantic relationship, as well as the desire to have a family of one's own, as shown in the example below.

> *"I always joke about it but there is a big big part of me that comes from a big family and I'm desperate to have family, and I've always said actually since I was 13 I want a family and I will have children"*
> *(P22, male, age 33, smartphone, filmed walking along a street with public present)*

Here we can see that the video diary is not just used as a place by which to reflect on current or past events, but also as a place to document aspirations for the future. Additionally, disclosures such as these demonstrate a desire within the gay community to have a normative home life, which in turn could result in an increased sense of belonging. In contrast, the participant in the following extract reflects on the breakdown of their romantic relationship and how this has made them feel.

> *"My partner of 15 years and I split up 3 months ago and even though we are no longer together as a couple we still have to live in the same house, which is a really tiny little house so things are quite difficult on that score. What was on my mind more than anything else, and has been for quite some considerable time is what a waste, and I keep oscillating between absolute anger and resentment and bitterness and all those other crappy emotions that we tend to feel when we think we have been wronged, and*

then I swing straight over to gratitude"

(P28, female, age 43, smartphone, filmed whilst driving between jobs)

Furthermore, another participant recorded an emotional, and deeply personal, diary surrounding the news they had just received regarding their mother and the impact this has had on them.

"I just got bad news from back home about my mum, that she might need, that the doctor is recommending open heart surgery and I'm just really worried for her, she's the only parental figure I really have a big attachment to, oh why am I even saying this, sometimes you just need to say something out loud I guess"

(P23, male, age 32, smartphone, filmed looking out of window)

The combination of narrative, tone of voice, and visual, highlight the benefit of point-of-view video diaries. This supports research which has identified the video diary as being able to capture verbal and non-verbal data with more character than other methods (Buchwald, Schantz-Laursen and Delmar 2009; Noyes 2004). The findings of the current study also extend this research. With point-of-view visuals you are placed into the participant's shoes, you become the person looking out across the city into the distance as if to suggest looking into the unknown future, and you feel the emotion. Furthermore, these examples show varying degrees of personal reflection with regards to relationship and the family unit. Participants were found to use the video diary as a means of organising their thoughts, emotions and aspirations. The video diary has provided a one-way rhetoric by which the participant can verbalise their feelings and organise their thoughts without the need to have the discussion with another person. In effect the recording device becomes a silent person in the conversation, substituting the feeling of speaking to someone about a matter and the benefits that can bring, whilst, keeping the matter relatively private.

Reflections and observations focused on "Behaviour" were the second most prevalent within the "Lifestyle" theme. The reflections from 63.33% (n=19) of participants ranged from thinking about everyday activities, such as lunchtime routines, to discussing sexual activity and more significant life events, as illustrated in the following excerpt.

> *"I'm in the process of moving books from under my bed into a box ready to move out . . . I found a list of advice to myself that I wrote when I was 13 and one of the parts of advice to myself was something along the lines of play it cool because you don't know what the situation is, and it was to do with the girl I liked at the time and I remember hiding that under my pillow and planning on taking it out at a later time"*
> *(P18, female, age 20, smartphone, filmed whilst looking at belongings)*

The presence of content related to behaviour demonstrates that participants are using the video diary to document and reflect upon their every day lives. Whilst some discussions of behaviour may appear to be inconsequential to an outside audience, they are of significance and hold value to the participant. The following excerpt is an example of such a disclosure.

> *"This is exciting because I kill everything that lives, my partner and I bought a cherry tomato plant about two weeks ago and one of them is turning red"*
> *(P26, female, age 37, smartphone, filmed looking at tomato plant)*

Here the participant reflects on their past experience of caring for plants, implying they do not have the inclination to keep them alive. However, after purchasing a tomato plant they find joy in the realisation that they are capable of caring for and getting plants to thrive. Recording the visual of the plant and the individual tomato turning red provides the participant with a visual memory of this moment which holds clear value to them. The point-of-view nature of the

visual acts as a stronger archive of achievement through showing the plant rather than just the participant speaking to camera about it. This also demonstrates how the portability of smartphone allows for the camera to be easily moved around objects to show items of interest.

Another facet of lifestyle that was identified in the video diaries was that of work, whether it is a paid or voluntary role. "Work" was discussed by 50.00% (n=15) of participants with disclosures discussing job security, current activities and previous positions. Whilst discussing work being undertaken for an employer, one participant briefly reflects on matters relating to their own company, shown in the following excerpt.

> *"Something I'm working on for my own business at the moment is a big corporate photoshoot . . . I do [stage shows] going into primary schools"*
> *(P22, male, age 33, smartphone, filmed walking down street with public present)*

Furthermore, participants were found to reflect on their routines with regards to the working day. These findings highlight that participants feel that their working life is a significant aspect of their lives which they reflect upon and wish to record memoirs of.

The intersection between religion and sexuality can be challenging for those who identity as non-heterosexual. Whilst "Religion" only featured in diary entries from 16.67% (n=5) of participants, no negative observations were made. Instead, participants discussed how they found comfort in both their sexuality and religious beliefs, as well as the perceived impact coming-out would have in family with strong religious views, as illustrated overleaf.

"My dad's a priest in the Catholic Church and obviously that makes it quite difficult because he is Catholic, well the whole family are but that's another story, but if I told him I think his reaction would be very pastoral"
(P30, female, age 29, smartphone, filmed in the dark at night)

Furthermore, one participant, filming outside a church, reflected on how they feel religion is perceived by and impacts on society, whilst acknowledging how their own opinion has altered.

"This place causes so much anger and frustration, and so much bigotry as a result of fearful people, but you know the place in itself is neutral, it's just a building you know. I think I've come a lot more to peace with religion and the church and I think the authentic purpose which is a connection with I guess the world, the universe, whatever you wish to believe in or God, I find that all of these are just words to say the same thing"
(P21, male, age 28, smartphone, filmed outside a church with no visible public present)

4.2.7. Engagement with gay culture

Gay culture encompasses many LGBT focused matters including, but not limited to, social movements, community events, and online or offline social groups/spaces. Not all individuals who identify as non-heterosexual engage with gay culture. Possible reasons for this include fear of social stigma or a desire to not be visibly associated with minority sexualities. Of all the participants, just under half, 46.67% (n=14), reflected on their "Engagement with gay culture". Within this theme, 33.33% (n=10) of participants focused on aspects of 'the scene'. The scene is a term used to describe public spaces, events or community groups that provide an area for those who identify as non-heterosexual to feel safe without fear of homophobia. In the sample, discussion focused on the annual Pride event, geographical areas popular with non-heterosexuals, gay bars and sports groups.

"This is the kind of centre I guess, or one of the centres, of the gay male community in London . . . one thing that strikes me when I come here is that it's actually no where near as gay as it used to be, so whereas it used to be gay bars and things like gay porn shops and kind of underwear fetish gear, there is still some of that now but it's been kind of really squeezed out by chains basically, things like Hotel Chocolat and Costa, so it's kind of becoming more straight and you kind of see straight couples here a lot more now, you see families out just kind of having a wander round, it just kind of shows I guess how maybe gay culture is becoming a bit more mainstream"

(P4, male, age 45, Glass, filmed in Soho with a lot of public present)

The presence of discussions on the 'scene' highlights that for some this is an important aspect of their lives, even their identities, one in which they both engage and reflect on. This example, in particular, reveals the participant's own engagement with the 'scene' through their observations on the increased homogenisation of retail in what is considered a central locale for the homosexual community. Furthermore, this could suggest that heterosexuals are more accepting; they are comfortable in engaging in these spaces and as a result there has been a change in focus in what is on offer. Collins (2004) explored the evolution of the urban gay spaces in England, he suggests that as these areas are regenerated they gain greater appeal to the heterosexual population. In contrast, Nash (2013) asserts the view that the younger LGBT generation are utilising alternative spaces to those traditionally frequented resulting in changes to urban space. Alternatively, the changes identified could have been the result of changes in the urban scene, or even influenced by changes in shopping preference within the gay community and an increase in online retail. These changes in demand and retail have been highlighted by Collins and Drinkwater (2016) as a factor in properties having a change of use to non-gay and lesbian targeted custom.

The use of Glass to capture the previous reflection again demonstrates how rich the captured content can be using this device. The participant was able to walk around the streets of Soho, London, commenting on aspects relevant to the retail properties being seen in the video. The wearable nature of the device at eye-level provides a rich first person view, combined with the sounds of the surroundings and the narrative the point-of-view video diary effortlessly places any viewer in the place of the participant. The street was bustling with people yet the participant appeared comfortable to capture a reflection using Glass in this setting. Had the participant been using smartphone or a video camera such a reflection may not have been possible. It may be more obvious that recording is taking place using these devices, whilst Glass allowed the participant to capture the moment whilst just walking down the street as they would ordinarily. No similar reflection was present from smartphone participants. This could imply that the wearable nature of Glass helps to facilitate these recordings in populated areas.

Eight participants (26.67%) were found to also reflect upon gay dating applications. The findings would suggest that gay dating applications are more prominent amongst gay men and are, therefore, seen as a notable item to record. Overall, these reflections were varied in tone, encompassing both positive and negative aspects. In the following example the participant shows how they are using dating applications to seek a positive outcome, the forming of new social connections.

> *"I've actually joined quite a few dating apps, try and meet some new people, no luck yet"*
> *(P30, female, age 29, smartphone, filmed at night looking at a lamp)*

In contrast, other participants were found to discuss their dislikes with regards to gay dating applications. These ranged from brief reflections in which participants

disclosed their dissatisfaction of dating applications as they provided no positive return, to lengthy monologues describing behaviour on, and feelings towards them, as shown below.

> "I think that gay dating apps such as Grindr, and Hornet, and Scruff and even Tinder to a certain extent, even though that is for straight people as well, I think that in a sense it showed what was really bad about homosexuality. I've used Grindr and Hornet and I've met people off of there. I first started using it with my friend as a joke when I was 16 or 17 years old and, you know, I'd just lie and say I was a 25 year old art student and it would all be fun and games, they would send penis pictures and it would all be a surprise . . . I feel that now I don't have Grindr my phone is innocent" (P3, male, age 21, Glass, filmed looking into a mirror)

Whilst this is an isolated entry in terms of the level of detail, the reflection provides an interesting insight into the gay dating application arena amongst gay men. The participant discloses that they formed an alternative online persona, demonstrating how they were disassociated from offline reality whilst engaged in this online space. They were free to choose whoever they wanted to be and as a result easily constructed a false background and stated they were markedly older than offline reality. Undoubtedly, others engaged in these online spaces could be constructing alternative, idealistic, online personas in a similar way. These untruthful self-representations in online space could be as a result of the online disinhibition effect (Suler 2004). Here the participant was able to hide behind the online environment and conceal their true identity, they created an online character for others to engage with. The admission that these spaces do not simply function as a place to find a meaningful relationship, but also as facilitators for the sharing of sexually explicit imagery, combined with the possibility of a real world encounter, suggests that dating applications aimed at gay males are highly sexualised in nature. In turn this could be alluding to the

perception of gay men being highly promiscuous, with the applications aiding in this behaviour. This supports existing research which has identified sex-seeking as a motivating factor for using dating applications aimed at men who have sex with men (Gudelunas 2012; Miller 2015). Additionally, Miller (2015) found a majority of men reported negative feelings towards social networks aimed at men who have sex with men, these feelings included sexual indignity. Even though, in this study, the participant acknowledges previous engagement in this behaviour, they assert a negative attitude towards gay dating applications for these very reasons. Furthermore, this illustrates how they feel these facets of behaviour, and by implication the applications that facilitate it, contribute to a negative impression of homosexuality. Also, in this example, the removal of the application is seen as a cleansing of the smartphone device. Interestingly the participant captured this reflection whilst looking into a mirror, this combined with the temporal reflection of behaviour could allude to some form of self-acknowledgement. Owning up to oneself through a process of not only reflecting on behaviour but speaking directly to a visual image of the self. The video diary has not only served as a location whereby dating applications are mentioned and briefly reflected upon, but also as a confessional space of sexual and online behaviour. As a result, the video diary can be viewed as a platform on which users feel comfortable reflecting at both an abstract and deeply personal level.
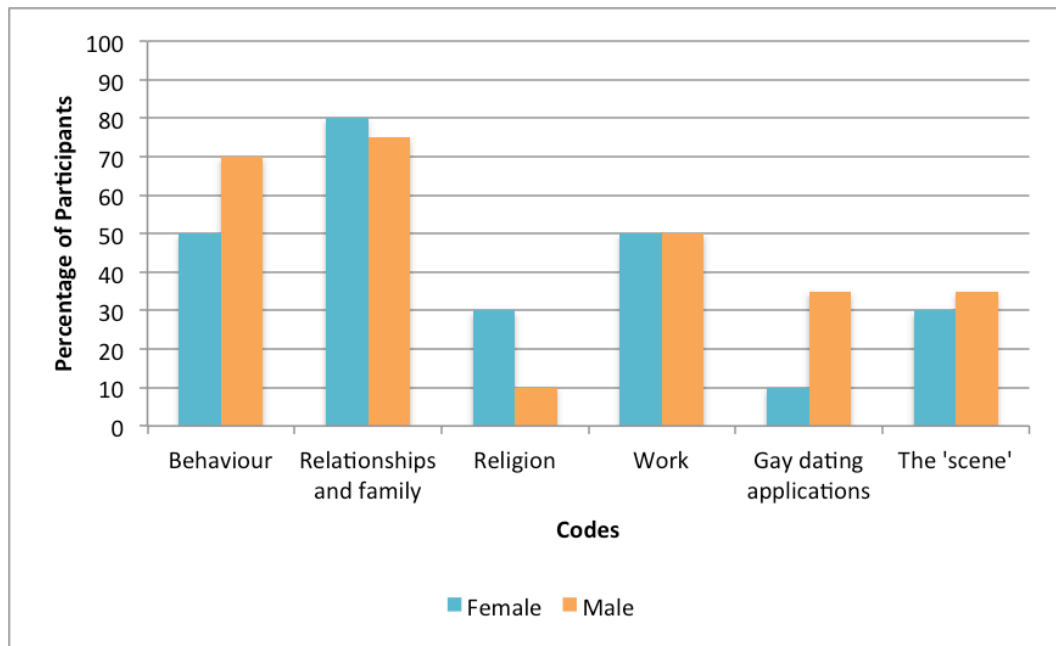
Figure 9: Distribution of codes in the 'Lifestyle' and 'Engagement with gay culture' themes

4.2.8. Wellbeing

Within the sample 43.33% (n=13) of participants were found to discuss matters relating to physical and/or mental health, both from a personal and general viewpoint. Discussions surrounding "Physical health" were present in diaries from 30.00% (n=9) of participants and spanned a range of topics from gym habits and healthy eating to medical conditions, such as recent operations.

> *"So being at the gym, it's another of those experiences that I do everyday, and sometimes I wonder why, what drives me to go to the gym everyday and exercise, maybe it's the macho culture that kind of, you want to feel strong, you want to feel that you can defend yourself when you need to . . . also I like being physically active"*
> *(P17, male, age 30, Glass, filmed as leaving the gym and then cycling home)*

"Mental health" featured in diaries from slightly fewer participants, 23.33% (n=7), and reflections were found to encompass depression, lack of motivation and general discussions of mental wellbeing.

"I'm on my way to the counsellor . . . I did use to have minor symptoms of
BPD, which is a borderline personality disorder"
(P7, male, age 20, Glass, filmed outside walking to counselling session some
public present)

Whilst these codes are not as prominent as others across the dataset, their existence still provides useful insights into this community. Discussions of gym habits and exercise were only found in videos from male participants and could suggest body image to be an important aspect within the gay male community. Previous research has identified gay men to have a higher degree of body dissatisfaction than heterosexual men (Morrison, Morrison and Sager 2004; Tiggemann, Martins and Kirkbride 2007) and physical appearance is also considered of great importance (Yelland and Tiggemann 2003). In contrast, Morrison, Morrison and Sager's (2004) meta-analysis revealed no significantly reliable difference between lesbians and heterosexual women. Relatively little research has explored the intersection in body image between gay men and lesbians, however the findings from this study suggests there to be a higher level of body consciousness amongst gay men. This is not to say that lesbians do not maintain the same level of fitness, however the absence of any discussion from them in this regard would imply they do not see it as being a significant facet of their lives on which they reflect. The reflections from participants in which they disclose that they suffer from depression or other conditions related to mental health highlights the impact these conditions can have on someone's life, from taking medication to regularly seeing a psychiatrist. It also illustrates how participants are comfortable in reflecting on such personal matters in point-of-view video. Furthermore, participants discussed their own perceptions and thoughts surrounding mental health, and in one case reflected on how they maintain mental wellbeing through the art of meditation. Previous research has investigated the relationship between homosexuality and mental health (Gibbs and Rice 2016; McLaren, Gibbs and Watts 2013; Rosser et al. 2008), which

identified several factors, such as internalised homo-negativity and level of engagement with the gay community, as being determinants in the level of depression. Whilst the findings from this study are not significant enough to theorise a link between these aspects, they do show that depression is present and that there is an awareness of mental health issues. Furthermore, the video diary has provided a space where participants have felt comfortable in verbalising personal aspects of their wellbeing.

4.2.9. General narrative

Of all the participants, 80.00% (n=24) have at least one aspect of "General narrative" in their video diaries. The most prevalent code within this theme was that of "Other commentary", with 60.00% (n=18) of participants discussing a varied range of matters including personal opinions on community spaces, products purchased, and the weather. An example of one such reflection is given below.

"This is Ashford's memorial garden with its really quite well kept flowers"
(P29, male, age 31, smartphone, filmed at the location, no public present)

Furthermore, it has been reported how participants reflect on the lack of LGBT representation in the media, however they were also found to talk about the media in general. "Reflection on media" was the topic of discussion amongst 53.33% (n=16) of participants, and again, contained a mixed range of observations, predominantly focused around literature, television, and film.

"This is a two-page advert for an upcoming BBC drama, it starts Monday evening actually, it's all about the Bloomsbury set and to be honest I quite like the Bloomsbury set . . . I actually might have to watch this"
(P24, male, age 33, smartphone, filmed looking at newspaper advert)

"I re-read ['To Kill a Mockingbird'] recently just before I started ['Go Set a Watchman']. I found it a lot more problematic than I did the first time I read it, I don't know why, I think maybe because it's racist, and not surprisingly so is this one but it is quite interesting, it's very interesting actually, a lot better than I expected"

(P26, female, age 37, smartphone, filmed looking at 'Go Set a Watchman' book)

Whilst the content of these two codes provides further insight into the lives and opinions of the individual participants, it is not possible to make generalisations due to the diverse nature of the content documented. Nevertheless, these codes do further demonstrate how lesbians and gay men use point-of-view video diaries. It is evident that as well as being a tool for self-reflection and disclosure of feelings related to societal acceptance, video diaries are also used as a platform to document any thought that the participant holds as significant and wishes to record. Thereby illustrating that the point-of-view video diary is used in a very similar way to a traditional written diary in terms of verbal content.

Within their diary entries, 50.00% (n=15) of participants were found to reflect on aspects of the research study itself, categorised as "Metacommentary". These reflections are both positive and negative in nature and vary in detail. Some participants briefly mention problems they have had with recording, whilst others reflect on the experience of completing the video diary and their behaviour whilst filming, as shown in the following examples.

"It's been a really, a really eye opening experience actually"
(P6, female, age 21, Glass, filmed outside with no visible public present)

"I find the best strategy is just to hold your phone to your ear and it makes it look as though you're on the phone, but obviously I'm not on the phone because this would be a very one-way conversation since it's lasted about 4 minutes."

(P1, male, age 22, Glass, filmed outside with no visible public present)

A possible reason for the inclusion of metacommentary could be that participants found it to be a natural time to reflect on their involvement and experiences as these thoughts were in their mind whilst carrying out the study. Additionally, the experience of participating becomes an aspect of life some may wish to document. The practical implications and perceived benefits of capturing point-of-view video diaries will be analysed further in Chapter 5.

4.2.10. Difference in code prevalence between sexes

The previous sections have qualitatively examined the content of each of the identified themes in the video data. This section examines the statistical significance in the differences between sexes for each code. Due to the small sample size many of the observed values are low, resulting in the expected frequency falling below 5 for which chi-square testing is not suitable. Therefore, the Fisher's Exact test has been used as an alternative measure of significance, see Table 3, overleaf.

Discussions of "Stereotypes" were significantly more prevalent in diaries from women than men (p = 0.03). This would suggest that females feel more isolated than men, perhaps in the way society expects them to fit into a preconceived role and look. Any deviation outside of this expectation can be met with confusion (see section 4.2.4).

Code	p value
Lack of acceptance	.68
LGBT representation	1.00
Stereotypes	.03
Coming-out	.007
Self-reflection	.20
Belonging	1.00
Gay dating applications	.21
The 'scene'	1.00
Work	1.00
Behaviour	.43
Religion	.30
Relationships and family	1.00
Physical health	.20
Mental health	.66
Reflection on media	1.00
Other commentary	.46
Metacommentary	1.00

Table 3: Fisher's Exact results of significance between sexes for all codes

In addition, significantly more females were found to disclose their "Coming-out" experience than males ($p = 0.007$). Therefore, there could be a connection between females feeling less accepted and disclosure of coming-out experience. Perhaps females discuss coming-out experience more as they feel compelled to disclose their sexual identity in an attempt to seek acceptance. As a result, coming-out narratives are of greater significance to them and their lives, hence being present in their diary reflections.

Although more females were found to discuss "Lack of acceptance" than men (80% female to 70% male), and fractionally more men were found to discuss "Belonging" than women (55% male to 50% female), no statistical difference was found between sexes for either code ($p = .68$ and $p = 1.00$ respectively). However, whilst not statistically significant these findings could hint towards an element of social influence underpinning feelings of lack of acceptance for females and belonging for males. This could be as a result of a male dominated society; also within the LGBT community, in particular, participants reported a lack of visible lesbian representation as discussed earlier in this chapter. As a consequence, gay

men could have a greater sense of belonging than lesbians, however a larger sample size would be needed to examine this in more detail.

Interestingly, even given the prominence of gay dating applications aimed at men, and the prevalence of matters pertaining to this code featuring more highly in videos from gay men (7 males to 1 female), no statistical difference between sexes was identified in this sample (p = .21). Given a larger sample size it could be expected that this difference would be significant. Whilst this analysis presents some interesting findings at code level, it is worth noting that no statistically significant differences between sexes were found at theme level, Table 4.

Theme	p value
Isolation from society	.68
Comfort with identity	.14
Engagement with gay culture	.71
Lifestyle	.54
Wellbeing	.44
General narrative	.37

Table 4: Fisher's Exact results of significance between sexes for all themes

4.2.11. Device variation and code prevalence
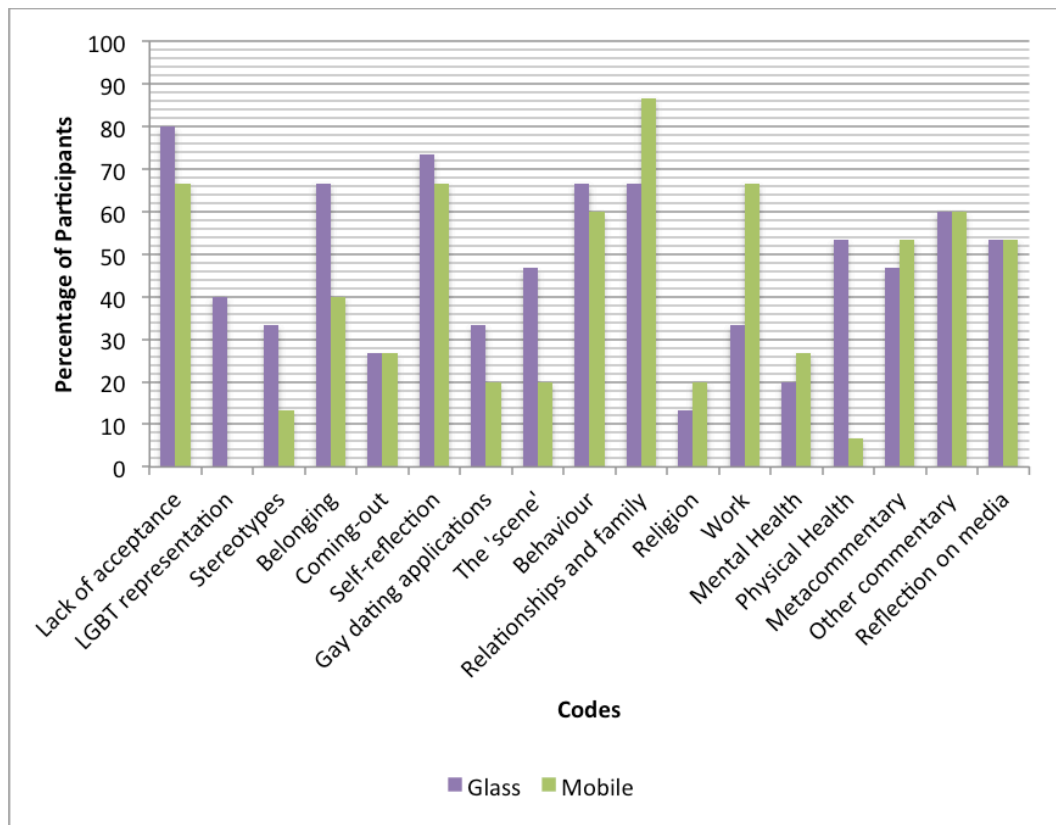
Figure 10: Comparison of the distribution of codes across both devices

Examining the differences between code prevalence and recording device reveals "LGBT representation" to be absent from videos recorded on smartphone devices, however it is not immediately clear as to why this is the case. A possible reason could be that participants preferred to hold visual aspects associated to these reflections, such as books, whilst recording. The wearable nature of Glass would, therefore, facilitate a more natural means of recording these reflections and observations as opposed to the handheld nature of smartphones. However, it is important to note that not all video diaries focused on "LGBT representation" involved the participant handling visual assets.

The difference between devices for the code "Physical health" was found to be statistically significant (Fisher's Exact test p = .01), with more occurrences within videos recorded on Glass than smartphone (8 Glass to 1 smartphone). As this

code has a diverse range of content it could be that participants simply found it easier to document reflections using Glass, as it is hands free. Furthermore, the wearable nature of Glass could have also allowed participants to feel less inhibited whilst documenting thoughts, facilitating a stream of consciousness, and in turn leading to additional disclosure of personal health related matters.

Additionally, the themes of "Isolation from society", "Comfort with identity", "Engagement with gay culture", and "Wellbeing" appear to lend themselves more to the wearable, relatively hands free, video diary. In contrast, the theme of "General narrative" appears to be more aligned with video diaries recorded on smartphone (13 smartphone to 11 Glass), whilst "Lifestyle" was consistent between devices, see Table 5.

Theme	% of Participants		Chi-square		Fisher's Exact
	Glass	Smartphone	X^2 (1, N=30)	p value	p value
Isolation from society	80	67	-	-	.68
Comfort with identity	87	80	-	-	1.00
Engagement with gay culture	60	33	2.14	.14	-
Lifestyle	93	93	-	-	1.00
Wellbeing	53	33	1.22	.27	-
General narrative	73	87	-	-	.65

Table 5: Theme prevalence between devices for all participants

Although these differences are not statistically significant, they suggest that there may be an element of codes focused around identity and isolation lending themselves more to wearable technologies. This could, in part, be due to lowered inhibitions surrounding personal disclosure facilitated through a disassociation with the device. In contrast, smartphone devices appear to lend themselves more to discussions of general reflection; the handheld nature of the device resulting in a higher awareness of the recording taking place. Although Suler's (2004) online disinhibition effect presents a set of factors as to why individuals say and do more online than they would in a face-to-face situation,

two aspects appear to intersect with personal disclosures using wearable devices. The elements of asynchronicity and dissociation could also influence offline recordings and help to explain why Glass facilitates such personal disclosures. When recording the video diary, the participant is not having a real-time conversation with someone else, it is asynchronous. Although viewed as personal diaries, the participant is aware that the video is to be watched by a researcher at a later point. Even if this was not the case and the diary was being kept as a private memoir, there is no immediate reaction from someone else which could influence the narrative. This combined with the opportunity to dissociate from the act of recording through not holding the device and being able to continue with tasks at hand, could allow participants to subconsciously separate the recording process from what they are thinking about out loud. Suler (2004) notes that not all of the factors proposed need to be in play for the disinhibition effect to be produced. Therefore, if these two factors alone impact disclosure via Glass, it could suggest that a wearable's disinhibition effect may also exist.
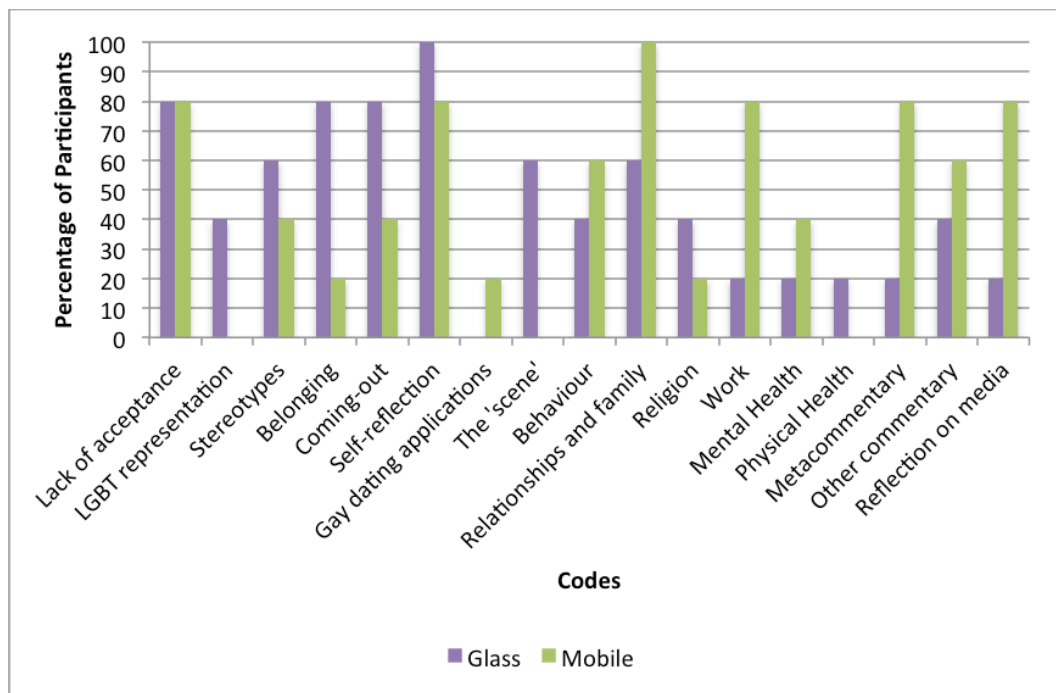
Figure 11: Female code distribution split by device

Examination of the difference in code prevalence between recording devices amongst female participants only, Figure 11, appears to enhance the distinction identified between device and theme. It can be seen that females were found to only discuss "LGBT representation", "The 'scene'", and "Physical health" on Glass, whilst "Gay dating applications" were discussed solely on smartphone. A possible reason for this distinction for "LGBT representation" could be the hands-free nature of the device as previously discussed. However, it is not clear why this is the case for the other codes or for females in particular. Further research into this distinction is required. Additionally, the codes of "Belonging" and "Coming-out" are more visibly expressed by participants using Glass, whereas the codes of "Work", "Reflection on media", and "Metacommentary" by those using smartphone. However, due to the low number of female participants using the devices (5 per device), the quantifiable difference in theme prevalence between device is minimal, see Table 6. The largest distinction between devices is with the theme of "General narrative", however this was not statistically significant (Fisher's Exact test p = .17).

Theme	% of Participants	
	Glass	Smartphone
Isolation from society	80	80
Comfort with identity	100	100
Engagement with gay culture	60	20
Lifestyle	100	100
Wellbeing	20	40
General narrative	40	100

Table 6: Theme prevalence between devices for female participants

In contrast, examination of the differences with regards to male participants, Figure 12, highlights the codes of "LGBT representation" and "Stereotypes" to be discussed solely on Glass, whereas "Coming-out" and "Religion" only feature in videos recorded on smartphone. It could, therefore, be expected that for men, wearable devices facilitate the discussion of topics surrounding isolation more effectively than smartphone devices. However, no measure of statistical

significance in the theme of "Isolation from society" across devices has been found for this sample for male participants (Fisher's Exact test p = .63). The only significant difference with regard to device and code, when looking at male participants, was identified in respect of "Physical health". It was statistically more significant for videos recorded by men using Glass to contain this code than those recorded on smartphone (Fisher's Exact test p = .02). It has already been discussed how "Physical health" is more prevalent in diaries recorded on Glass across all participants, however it is not clear why men reflected more on this subject on Glass than smartphone. More research is required to investigate this difference further.
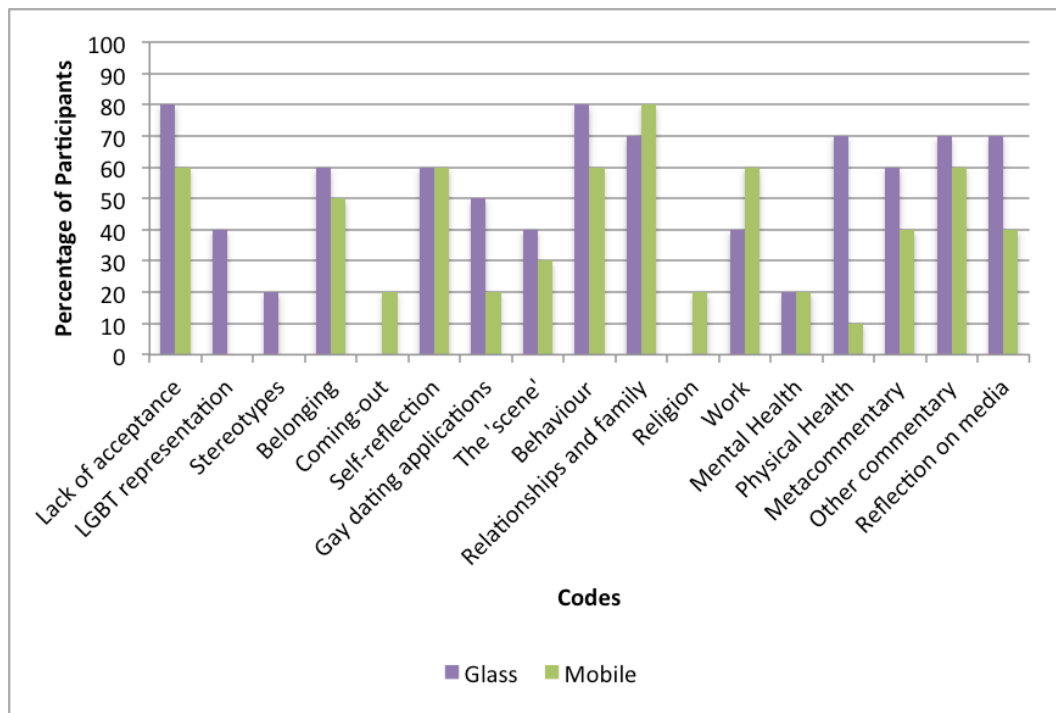
Figure 12: Male code distribution split by device

4.2.12. The impact of environmental factors on video diaries

Previous sections focused on the prevalence of the identified codes across the participants, examining both sex and device variations. This section examines the environmental conditions present during the disclosures to ascertain whether or not different factors impact on the disclosure of certain information. During the

coding process, visual content was classified according to "Location", "Relevance", and "Degree of privacy". Whilst there is a degree of variation in the visual content throughout each video, the classifiers provide an interpretation of what is observed to be the most prominent recording environment for each video as a whole. The classifiers are outlined in Table 7.

Classifier	Attribute	Description
Degree of privacy	Public	Video units are recorded in the presence of one or more individuals, or in areas where encountering members of the public is highly likely.
	Private	Video units are recorded in areas where there are no visible individuals, or in areas where encountering members of the public is highly unlikely.
Location	Inside	Video units are recorded inside, includes travelling in cars and buses.
	Outside	Video units are recorded outside.
Relevance	Relevant	The recorded visual is predominantly focused on what is being spoken about.
	Irrelevant	The recorded visual bears little to no relevance to what is being spoken about.

Table 7: Classifiers for the visual content of each video

Of all 317 videos in the sample, 57.10% (n=181) were recorded in a private space, such as a bedroom, whilst 42.90% (n=136) were recorded in a public space, for example a street. Just over half of the videos, 55.52% (n=176), were recorded inside and of those 81.82% (n=144) were in a private location. Those which are classified as being inside and public, 18.18% (n=32), include retail outlets and participants speaking at home with acquaintances present. Of the videos recorded outside, just over a quarter, 26.24% (n=37), were in a private space such as a private garden or moorland. Examining the relevance of the recorded visual to the verbal content revealed 59.94% (n=190) of videos to record content related to the main point being reflected upon. Whilst 40.07% (n=127) of videos contained no relevant visual content. Although there is little difference between the prevalence of inside and outside disclosures across the videos on both devices, the finding that over half of the videos were recorded in a private space

indicates a level of privacy control in the disclosure of personal narratives via video diaries.
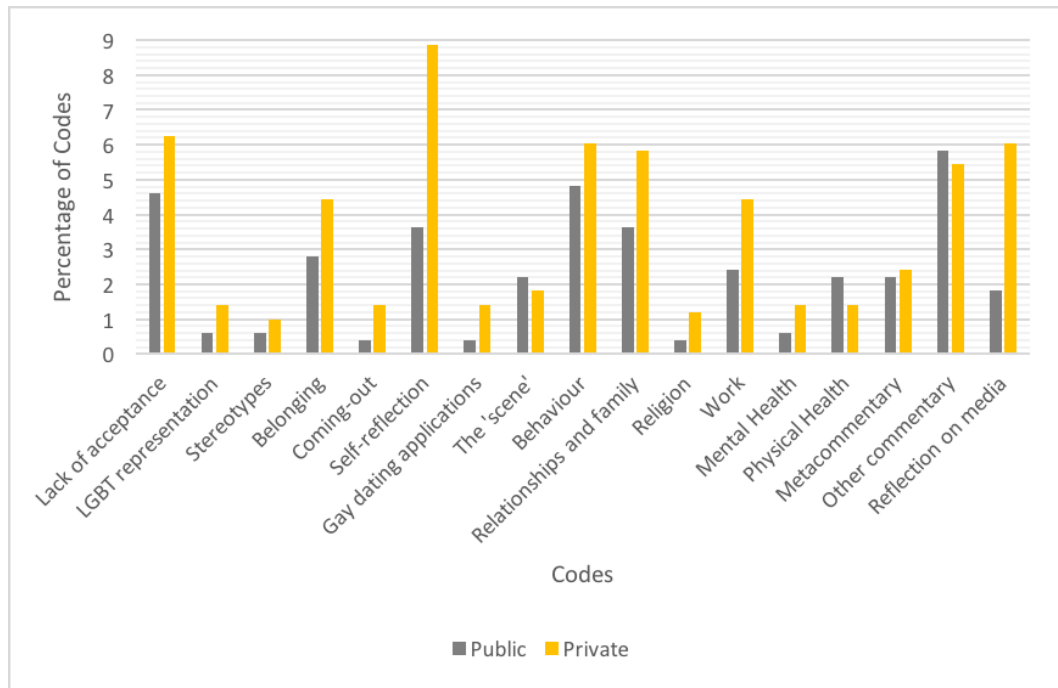
Figure 13: Degree of privacy across all codes

Examining the differences in code prevalence between public and private spaces, Figure 13, reveals 14 out of the 17 codes were discussed more in a private space. The most notable differences are with the codes "Coming-out", "Gay dating applications", "Reflection on media", and "Religion". These were all found to be over three times more likely to be discussed in a private space within the sample. With the exception of "Reflection on media", these codes generally offer a very personal narrative. Therefore, it is understandable that participants have chosen a private space, whether inside or outside, to disclose and reflect upon these facets of their lives. "Reflection on media" could feature more highly in private space as a consequence of filming location.
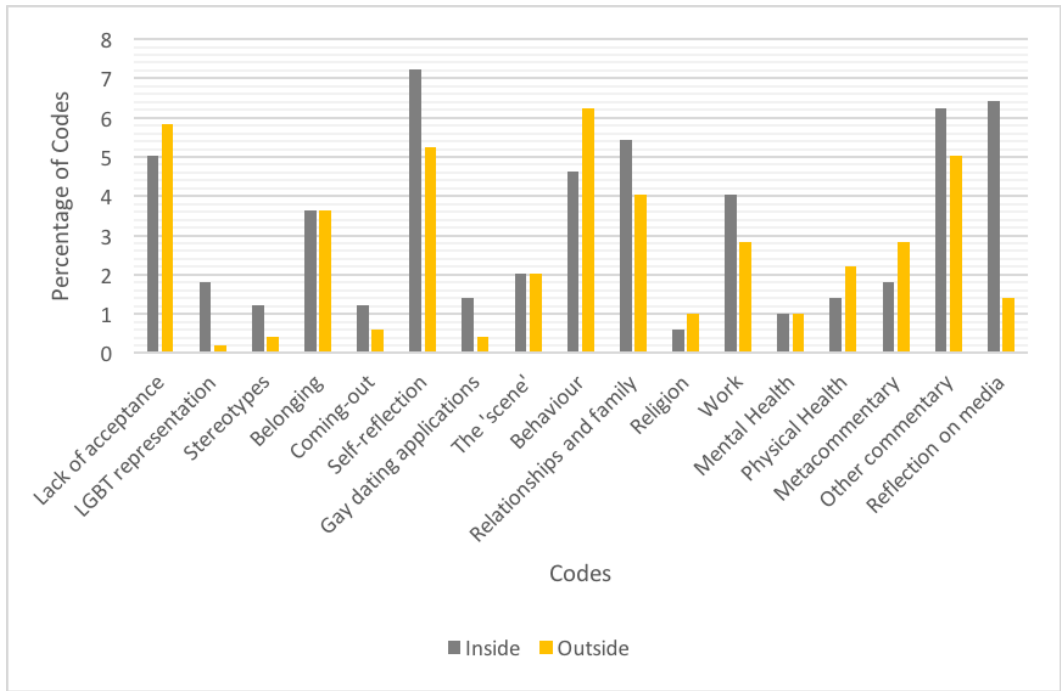
Figure 14: Recording location across all codes

Examining the recording location of the disclosures, Figure 14, reveals Reflection on media" to be 4.57 times more likely to be recorded inside than outside. A possible reason for this could be that many of these disclosures involved the filming of personal books or online news reports (Figure 15), which lend themselves to being recorded at home with the items to hand or whilst sitting at a computer in a bedroom. As a result, these locations tend to be more private in nature, the effects of which have been illustrated in these findings.
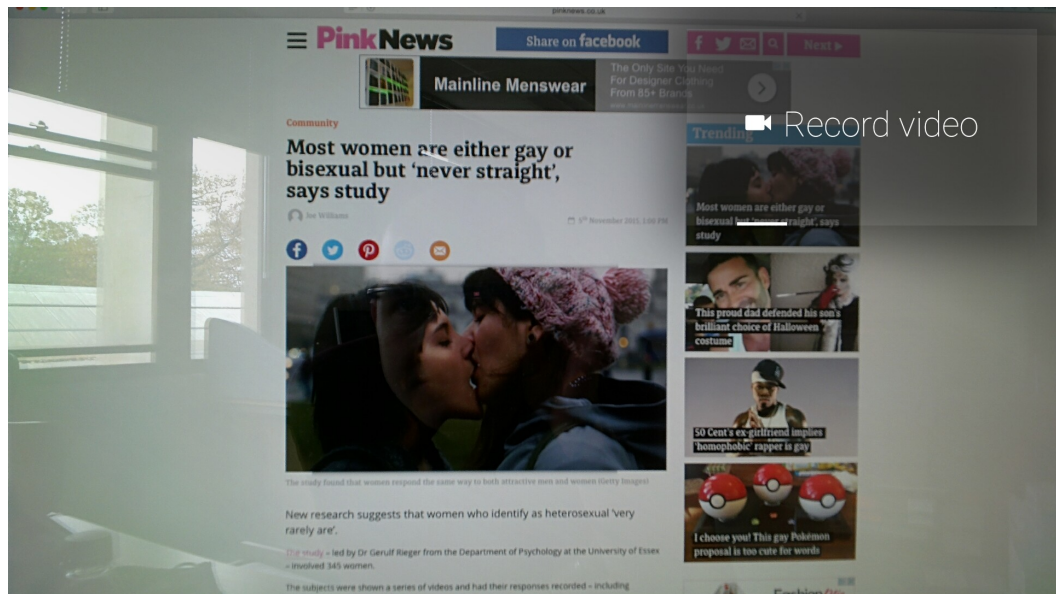
Figure 15: Reconstruction of a diary entry for an online news item using Glass. The Glass menu option to begin filming is shown (inset)

Other prominent differences are within the codes of "LGBT representation", "Self-reflection", and "Mental health", which were all found to be between 2.33 and 2.44 times more likely to be discussed in a private space. Of particular interest is "LGBT representation" which was also found to be 9 times more likely to be recorded inside within this sample. Whilst not all of these inside disclosures were in a private space it does suggest that thoughts surrounding lack of representation is an element of identity evaluation that occurs whilst disconnected from the outside world. However, only 2.01% (n=10) of all codes focus on "LGBT representation" and so this finding is only indicative.

Additionally, "Lack of acceptance", "Work", "Relationships and family", "Behaviour", and "Belonging" were all found to be between 1.25 and 1.61 times more likely to feature in videos recorded in private spaces. Whilst these do not vary to such a high degree as those already discussed, it does suggest that there may be a level of self-awareness when discussing these, sometimes very personal, topics. This is further exemplified by these codes also being somewhat more likely to feature in videos inside than outside. Disclosure of any of these

personal matters in a private space offers greater control over the potential of others overhearing what is being said. Nevertheless, it is important to acknowledge that these disclosures are also frequent in public places. This indicates that disclosures take place depending on comfort with the surroundings and the degree of revelation in the reflection.

Further analysis of the recording location across the codes highlights disclosures focused around "Coming-out", "Gay dating applications", and "Stereotypes" to be, 2.00, 3.50 and 3.00 times more likely to be recorded inside than outside, respectively. These codes often contain sensitive, and deeply personal reflections, relating to the participant's identity and were also more likely to be found in videos recorded in private. This highlights the personal nature of the video diary and also a level of privacy control in ensuring these disclosures are kept as private as possible. Moreover, this supports previous research which has identified video diaries as a place where participants can express personal experiences (Holliday 2004; Noyes 2004). In contrast, the codes of "Lack of acceptance", "Behaviour", "Religion", "Physical health", and "Metacommentary" were found to be between 1.16 and 1.66 times higher outside than inside.
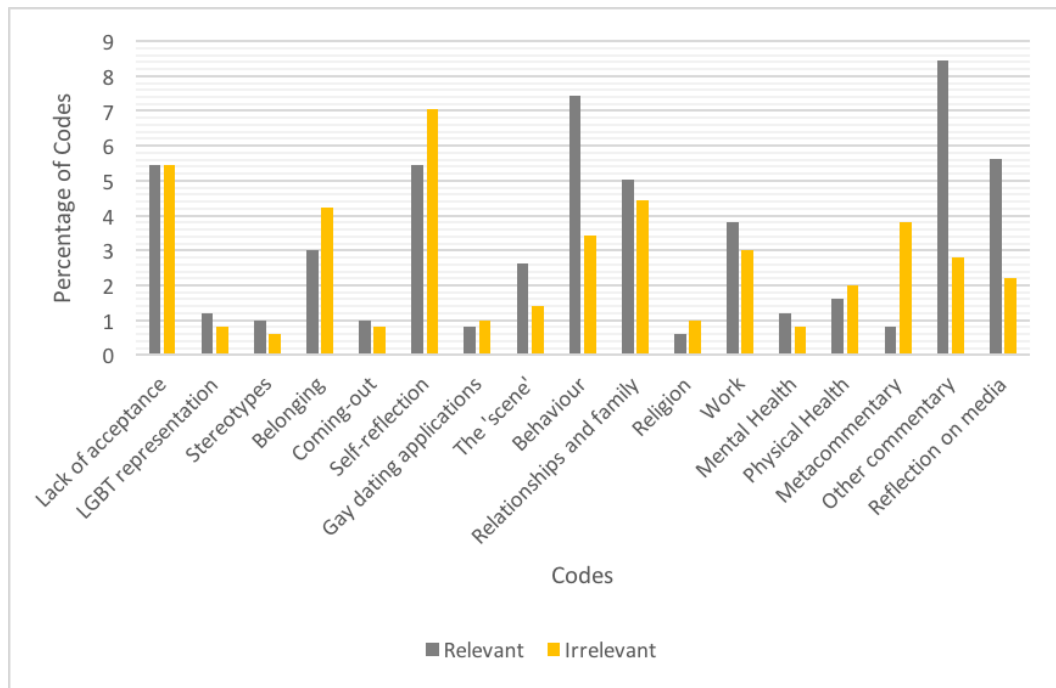
Figure 16: Relevance of visual material to verbal content across all codes

The visual classifiers identify the most salient aspects of each video as a whole. As each video can contain more than one code for verbal content, the findings with regards to the relevance of the visual material to the verbal content need to be carefully considered. Examining the relevance of the visual material reveals minimal differences across a majority of the codes, see Figure 16. "Metacommentary" was found to be 4.75 times more likely to be disclosed with irrelevant visual material, which is expected given the nature of this code. Similarly, "Belonging", "Self-reflection", "Gay dating applications", "Religion", and "Physical health" were all found to be between 1.25 and 1.40 times more likely to be reflected upon whilst filming unrelated visual material. Whilst the likelihood for visually irrelevant content here is minor, it does suggest that recording visual signifiers for these codes may not always be appropriate or feasible, depending on both the type of interaction and the reflection itself. Alternatively, it could simply be that participants are more likely to reflect on matters related to these codes retrospectively, whilst in a different environment or doing another activity. Visually irrelevant material on either device involved

the filming of roads whilst driving, walking down streets and through open spaces, and for mobile devices the filming of the ground (Figure 17). This highlights how for some the visual aspect of the video diary was throwaway, with the importance of the reflection situated in the narration alone. For Glass the point-of-view visual is retained throughout, without the need to put in any effort due to its wearable nature, allowing for the clear identification of environmental context at all times. In comparison, smartphone could be seen to become cumbersome, especially holding it in front of yourself. As such a general reflection whilst walking somewhere might not have been seen to need a visual, as a result the smartphone is held in a more comfortable position.

Figure 17: Reconstruction of the visual element from smartphone diaries being underutilized

The codes which are considered to have a higher proportion of visually relevant material are "Reflection on media", "Behaviour", and "Other commentary". Examination of instances coded as being focused on "Behaviour" and having visually relevant material shows "Behaviour" to only have complete coverage in

54.05% (n=20) of videos. In the remaining cases "Behaviour" is less prominent with a mean coverage of 26.03% (σ = 19.55). Therefore, whilst the video as a whole may have been relevant to the principal matter being disclosed, hence the classifier given, this is not necessarily representative of more incidental codes within larger reflections. Visual relevance for "Other commentary", "Coming-out" and "Mental health" have been amplified in a similar way. For example, "Coming-out" has complete coverage in just one of five videos in which it occurs with visually relevant content. In the remaining four videos the median coverage is less than a third, 30.07%, further highlighting the influence of the stronger aspects of each video with regards to visual content coding. In contrast, a higher proportion of visually relevant material for instances of "Reflection on the media", more adequately illustrates how participants used video to film the aspects of media they were referring to. Equally, increased visual relevance for codes focused on "Work", "The 'Scene'", "Relationships and family", "Stereotypes", and "LGBT representation" indicates that participants are recording aspects related to these, such as showing family photographs or an office space, when reflecting.

4.2.13. Summary of findings

The key findings from this chapter are:

- The wearable, and relatively hands-free, nature of Glass allows for a more instantaneous recording process without the need to get out a camera, position it appropriately for the recording, or stop with the larger task at hand. As such, reflections can more easily be made in the moment. This adds to the growing body of research using Glass and other head-mounted cameras which has been predominantly confined to medical (Armstrong et al. 2013; Kottner et al. 2013; Vallurupalli et al. 2013) and sports (Bizzotto et al. 2014; Graves et al. 2014) applications. Therefore, this is a significant contribution for the use of Glass or similar wearable devices in video diary research.

- The point-of-view video diary is a place in which participants felt comfortable discussing both positive and negative aspects of their lives and highlighted elements of everyday life that could be taken for granted, such as acceptance and representation. In a diary study with participants speaking directly to the camera, Holliday (2004) asserted that video provides a platform for a greater degree of reflection. The findings of the current study extend this assertion to point-of-view video diaries.

- Codes which generally focus on personal narratives, such as "Coming-out", were more often filmed in a private location suggesting a level of privacy control. Importantly, whilst it has previously been identified that individuals are happy to share these stories online to a global audience (Alexander and Losh 2010), these findings highlight that participants may only be comfortable physically talking about them in private.

- Themes focused on identity and isolation ("Comfort with identity", "Engagement with gay culture", "Wellbeing", and "Isolation from society") appear to feature more highly in video diaries recorded using Glass than smartphone. This could suggest a level of disassociation from the act of recording when using wearable devices which in turn facilitates a higher degree of personal reflection. This is a significant finding which extends the work of Suler (2004) and suggests that a wearables disinhibition effect may also exist.

- Of all codes, "LGBT representation" was found to only ever occur in video diaries filmed using Glass. The wearable nature of Glass could have provided a more practical means to hold and record visual assets, such as books, associated with this code. This type of study has not previously been conducted with Glass, therefore, this is a significant finding as it suggests that this type of wearable device may facilitate richer narratives. As a result, this could have implications for future studies looking to use this or similar devices.

- The visual aspect of the video diary was not always fully utilised, however, those recorded on Glass provided greater situational context due to the fixed point-of-view nature of the device. This finding extends previous video diary studies where the participant sits in front of the camera (Holliday 2004; Katzeff and Ware 2006; Noyes 2004), and demonstrates that point-of-view video diaries can effectively allow for the capturing of visual assets beyond the participant alone. Furthermore, it supports the work of Chalfen (2014) in allowing new interpretations of the social world, with Glass facilitating this to a higher degree than smartphones.

4.3. Conclusion

The purpose of this analysis was to identify the topics which hold value to gay men and lesbians and as such are reflected upon in personal video diaries. Examination of both the verbal and visual content has provided a rich insight into how wearable and handheld devices are used to capture point-of-view video. In addition, this analysis has identified some of the factors which lead gay men and lesbians to feel isolated. Finally, the quantitative analysis of differences between men and women as well as across devices, has revealed where statistical differences exist.

The next chapter investigates the practicalities of using wearable and handheld devices for the recording of point-of-view video diaries through an analysis of interviews from the participants in this study.

Chapter 5: Users' perspectives of recording video diaries using wearable and handheld devices

The previous chapter reports on the audio-visual content recorded in personal, point-of-view, video diaries. The analysis showed how content varies not only between men and women, but also between the technological device used for recording. Furthermore, there was evidence to suggest that wearable devices facilitate a higher degree of personal narrative through disassociation with the technology. In addition, videos recorded via wearables were found to maintain stronger situational context than those on smartphone.

Interviews have been conducted to complement the diary method in previous scholarly work (Brown, Sellen and O'Hara 2000; O'Hara, Black and Lipson 2006), and are a recommended process to ascertain details surrounding participant experiences of diary keeping (Lichtner et al. 2009). Therefore, this chapter focuses on an interview study to ascertain the participants' experiences of recording video diaries on Glass and smartphone. The analysis reveals how feelings of self-consciousness vary between device and how the method of recording video diaries can have therapeutic properties. Additionally, the visual design of Glass is found to be a significant issue, whilst self-censoring is identified as a significant behavioural trait for those on smartphone.

The aims of this study were to:

1. Identify practical implications of recording personal video diaries in public spaces using wearable and smartphone devices.
2. Identify differences in recording experience between wearable and smartphone devices.
3. Identify how video recording via wearable and smartphone devices could be used to support those who identify as either a gay man or lesbian.

5.1. Methodology

5.1.1. Data collection

Semi-structured interviews were used to investigate participants' experiences of recording point-of-view video reflections in public and private spaces. Immediately following the return of their video diaries (see Chapter 4), all participants (20 males, 10 females) were interviewed face-to-face for up to 30 minutes. Interviews were audio recorded and additional notes made to record hand gestures, where appropriate.

Specifically, the interviews focused on four core areas covering the following topics:

1. Participants: technical knowledge and use of computing or mobile devices. Questions such as "would you describe your technological competency as novice, intermediate or advanced?".

2. Opinion of device: thoughts pertaining to the usability of the device used, what worked well and what could be improved upon. Open ended questions such as "Please can you tell me three good things about filming on the device?" and "How would you describe the acceptability of the device?".

3. Recording: the experience of recording and sharing personal information in an audio-visual format. Open ended questions such as "How did you find recording?" and "How would you describe your self-awareness whilst filming?".

4. Further applications: any perceived uses for the device to aid others in the process of self-reflection. Open ended questions such as "How do you think this device could be used to help those who identify as LGBT reflect on their lives?".

The full list of interview questions can be found in Appendix D.

5.1.2. Analysis

Thematic analysis was employed to analyse the interviews, which is a recognised approach for interview data (King and Horrocks 2010). Firstly, the recorded interviews were transcribed and any identifiable information anonymized, the resulting transcripts were then imported into qualitative data analysis software NVivo. Thematic analysis was used to iteratively analyse the interview data and allow for the identification of themes. Firstly, the interviews were thoroughly read to ensure complete familiarisation with their content and then a coding scheme was developed, ensuring the context of what was being said was retained. Similar codes that shared the same meaning were then merged together to form interpretive codes and the coding process repeated until saturation point was reached. The resulting collection of codes were then grouped into themes. To ensure inter-coder reliability, two independent researchers each coded a sample of 4 interview transcripts, one from each sex on each device. Cohen's Kappa was calculated at 0.75 which is considered substantial (Landis and Koch 1977).

5.2. Findings and discussion

This section presents the results from the analysis of the 30 interviews.

5.2.1. Technical competence

All thirty participants (20 males, 10 females) reported engaging with computers or mobile computing devices on a daily basis. Furthermore, 60% (n=18) described their technological competence as intermediate, whilst 30% (n=9) identified as being advanced users. The remaining 10% (n=3) described themselves as being somewhere between novice and intermediate.

5.2.2. Coding scheme

In total, fourteen codes were identified and grouped into four themes. The coding scheme is summarised in Table 8.

Theme	Codes	Description
Introspection	Facilitation of interior monologue	Recording video diaries allowed participants to explore their inner thoughts, in an unstructured way.
	Self-censoring	Participants disclose intentional actions to ensure they come across well to others, e.g. re-recording content.
	Self-consciousness	Participants disclose how filming made them feel more or less aware of themselves.
	Self-experience	Participants disclose their feelings towards the experience of filming video diaries.
	Self-seclusion	Participants actively removed themselves from situations in which they felt uncomfortable as a result of their personal thoughts and feelings rather than what they felt society would think.
Social perception	Acceptability	Participants assert a view on public acceptance of themselves or the recording device.
	Invasion of other's privacy	Participants express a view that they believe the public would, or do, find recording an invasion of their privacy.
User experience	Convenience	The device is seen as being a convenient tool for the recording of video diaries.
	Viability	Discussion on whether the device is seen as practical or impractical.
	Visual design	Discussion on the physical appearance of the device.
Video diaries as beneficial action	Audio-visual documentation	Video diaries are seen as a beneficial tool in documenting various life events.
	Community cohesion	Video diaries are seen as being a useful tool in helping to create a cohesive society through the sharing of content.
	Personal development	Video diaries are seen as a beneficial tool to aid those who need to work through, or organise, their thoughts and emotions.
	Self-discovery	Participants realised aspects about themselves as a result of recording video diaries and viewed this positively.

Table 8: Coding scheme for interview data

5.2.3. Code distribution

Examining the identified codes across both devices revealed "Self-consciousness" and "Viability" to be the most prevalent, with all participants speaking about both of these aspects during their interviews. Other codes which featured highly are "Acceptability" 93.33% (n=28), "Self-experience" 93.33% (n=28), "Personal development" 60.00% (n=18), and "Self-discovery" 53.33% (n=16). "Facilitation

of interior monologue" was the least prevalent, identified as being a facet of 23.33% (n=7) of participants experiences.

When comparing the differences in code prevalence between Glass and smartphone, Figure 18, it was found that "Visual design" was discussed solely from those using Glass. "Invasion of other's privacy" and "Facilitation of interior monologue" were also more prevalent on Glass. In contrast, notable differences in prevalence for those using smartphones are discussions surrounding "Audio-visual documentation", "Convenience", "Personal development", and "Self-censoring". These differences will be explored further in the following sections which examine each of the identified themes.
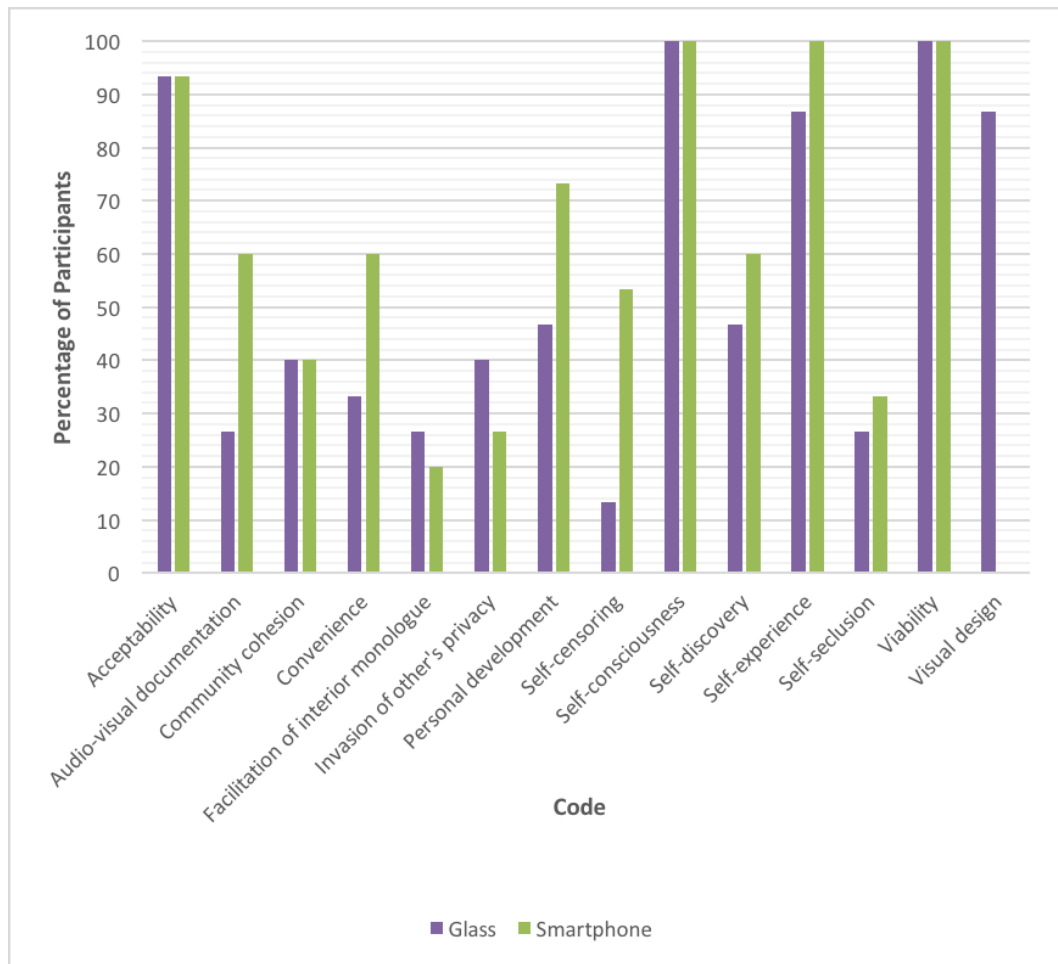
Figure 18: Distribution of codes across the interview dataset split by device

5.2.4. Introspection

Participants using both Glass and smartphone reported that documenting their reflections through speech facilitated interior monologue. This finding, whilst only identified from 23.33% (n=7) of all participants, was reported fractionally more by those using Glass (4 to 3). Participants using both devices described how they found verbal discourse facilitated a monologue which often lead in directions they were not expecting.

> *"It made me think more deeply about what I was talking about because I would start off talking about something and then end up going off on a tangent because it would remind me of other things"*
> *(P10, female, age 23, Glass)*

> *"I would think of something that I found that would be relevant to talk about, then I would talk about it and then occasionally sometimes that would just be it, I would talk about that topic and then I would be done and sometimes it would lead on to something else that I thought about through that and eventually you find yourself in a ten-minute video that went, bounced around all kinds of different things"*
> *(P13, male, age 20, smartphone)*

Interestingly the visual being recorded does not appear to play a leading part in the facilitation of interior monologue. Whilst a visual marker can provide a starting point for a topic of conversation, although is not always present (see Section 4.2.12), the act of verbal expression in this study appears to play a greater role in facilitating the exploration of other ideas and topics. Worth (2009) found participants using audio diaries supplemented their narratives with further details as they became relevant. Similarly, it can be seen that the audio aspect of video diaries allows for the same behaviour, with the code of "Facilitation of interior monologue" spoken about with regards to verbal expression rather than

visual cues. Despite these findings, other video diary studies (Buchwald, Schantz-Laursen and Delmar 2009; Holliday 2004; Noyes 2004) have not reported on such behaviour. Perhaps, therefore, the point-of-view aspect and portability of the video diaries in the current study, in comparison to the previous studies, is a contributing factor to this effect. Additionally, the device itself does not appear to influence this effect. It could be expected that a wearable is more easily forgotten about than holding a smartphone, and as such smartphone users would have a greater awareness of recording which could influence the narrative journey. However, this study has found no substantial evidence to suggest this has occurred.

An interesting finding was that over a third of all participants, 36.67% (n=11), self-censored their content. Whilst it can be argued that self-censoring is a facet of self-consciousness, it has been kept separate to highlight the distinction in this behaviour between devices. More participants using smartphone disclosed elements of censoring than those using Glass (8 to 2). Participants using smartphone disclosed that they self-censored their content if they felt it was not good enough, illustrated in the following example.

> *"I did about 20 [videos] to give you the 6 [videos] back . . . [if the video was]*
> *not good enough, delete, do another"*
> *(P28, female, age 43, smartphone)*

In contrast, those using Glass only disclosed aspects of censorship pertaining to dialogue construction, considering the viewer of the recording.

> *"I was mindful about the viewer of the recording, so what am I recording,*
> *what am I saying, what is the other person going to get on the other end*
> *while watching it . . . maybe I was selective towards what I want to show or*
> *what I want to say" (P17, male, age 30, Glass)*

Additionally, this aspect of considering what was to be said and how, to ensure clarity and coherence, was also present from smartphone users, as illustrated.

"I didn't want to come across as really boring sort of rambling on for ages"
(P20, male, age 30, smartphone)

It could, therefore, be surmised that video diaries recorded on smartphone are viewed as a throwaway ephemeral that can be easily replaced, they can be created and deleted relatively quickly unlike a handwritten diary where changes are more difficult to make in comparison. Furthermore, evidence of participants deleting and re-shooting content was only present from those using smartphones. This could be due to participants having higher familiarity with the device than those on Glass and being more confident in performing these tasks. It is important to consider that with both the technological competence of the participants, and the functions of the devices themselves, editing or re-shooting of the content could have been more prevalent than what was reported during the interviews.

The previous examples have suggested participants chose to behave in a certain way because they knew the content was to be viewed by another person. This behaviour alludes to the "Hawthorne Effect", which has been previously examined with regards to workplace behaviour and clinical trials (McCarney 2007). The effect is such that individuals modify their behaviour when they know they are being observed. Within the findings of this study, there is a small body of evidence to suggest this effect has occurred. Participants were found to actively modify the content they submitted, planned their content, and ensured they speak in a clear tone as they knew the video was going to be viewed by a researcher. By their own admission they wanted to submit video diaries that they believed to be of a good enough standard rather than what they perhaps would have been happy with for their own private consumption. Furthermore,

Holliday (2004) asserts that the ability to review, re-record and edit video diaries offers a greater degree of reflection to the participants.

Feelings of "Self-consciousness" were a factor in all thirty participants' experiences of recording video diaries. Those using Glass reported feeling more exposed through wearing the device, with it making them stand out and look different.

> *"I did feel quite self-conscious about wearing it because people could see that I was wearing this thing and I guess it was a thing that was unfamiliar to other people"*
> *(P16, male, age 52, Glass)*

In contrast, participants using smartphone did not express such feelings of self-consciousness due to the physical device. This suggests that as smartphones are part of everyday lifestyle their existence and visibility is accepted, and also to an extent largely ignored. In comparison, Glass is a relatively new piece of wearable technology which is not necessarily widely known or accepted in the same way. As a result, not knowing how the public would react to a new device could have created an underlying sense of caution within the participants leading to these self-conscious feelings.

Participants using both devices expressed feeling awkward from simply talking to themselves, particularly if they were in areas where others could see them as they did not want to be perceived negatively.

> *"It was the fact that I would be drawing attention to myself which I really don't like to do, or people would be like who is she talking to or why is she talking to herself . . . having said that when I was alone or relatively alone I felt completely fine about it, it was just I think the social implication of*

people seeing me that made me feel weird, uncomfortable"
(P26, female, age 37, smartphone)

Furthermore, in public space personal disclosure on both devices was inhibited through an increased awareness of what was happening in the immediate vicinity. For example, members of the public walking past, as illustrated.

"I had to take [Glass] off and turn the video off and then resume when no one was around, I just felt really uncomfortable"
(P5, female, age 20, Glass)

A possible reason for this could be due to the study brief requiring participants not to purposefully record others for ethical reasons. As such, participants may have been more conscious of others around them to ensure they did not inadvertently film them. Alternatively, the data suggests that participants would avoid filming in the presence of others to avoid feeling awkward talking to themselves, even being overheard, or judged by others. Investigating video diaries from gay men, Holliday (2004) found most diaries to be filmed at home. Participants in Holliday's (2004) study were required to talk about their choice of clothing and accessories, which would lend itself to a home narrative when getting ready. However, of those recorded at work, these were in spaces devoid of others. The findings from the current study suggest that this could have also been in part due to a level of self-consciousness amongst participants.

Although participants felt more aware of themselves, some also reported that they felt comfortable in disclosing personal information, with a variety of reasons given for this. Some participants felt comfortable as they were alone when recording, whilst others found themselves less conscious of the recording device.

"I think because I wasn't as conscious of the glasses being on my face because I wasn't like looking through the viewfinder . . . I did kind of just babble on, babbled on a lot . . . I wasn't as conscious of me being recorded"
(P3, male, age 21, Glass)

Furthermore, in some cases, smartphone users asserted the belief that third parties may simply think they were on the phone. Similarly, two participants who used Glass reported holding their mobile phone to their ear to give the impression that they were talking on the phone.

"I think people would have overhead me but they would have probably thought I was having a deep and meaningful conversation with a friend on the phone, it wouldn't stop me from doing it again"
(P22, male, age 33, smartphone)

During the interview process 93.33% (n=28) of participants described their experience of recording video diaries. Across both devices experiences were predominantly positive or indifferent in nature; no participant asserted a strongly negative view towards the experience. Whilst participants felt self-conscious, as discussed, this did not appear to affect their overall perception of recording video diaries.

"I found it rather cathartic, it was kind of bizarre really because anyone could talk to themselves but at the same time I felt as if I had an audience"
(P1, male, age 22, Glass)

"I quite liked it actually, even though I felt self-conscious about it in terms of people seeing me, in other ways I kind of liked it . . . it kind of made me stop to think"
(P26, female, age 37, smartphone)

It is evident that participants not only enjoyed the process of capturing their reflections via video diary but found it beneficial on a deeper level, allowing for the expression of emotion and inner thoughts. Whilst the act of speaking about a matter can have therapeutic properties (Ross et al. 2008), the process of having to stop to take a moment to reflect and importantly record a video, has facilitated these positive attributes of self-expression. Without the need for recording, the benefits obtained and shared by the participants could be easily overlooked. Whilst the previous excerpts illustrate that the experience has been viewed as a largely positive process, some participants expressed a more indifferent attitude.

> *"[The] first question I ask myself is why would I want to keep a video diary? I've never kept a diary, it's not something I'm particularly comfortable with, I don't feel a necessity to record and testament my life like that"*
> *(P11, male, age 41, smartphone)*

> *"There were things I didn't like about it and there were things that I did like, overall I think I am fairly neutral on the whole idea"*
> *(P15, male, age 25, Glass)*

Although assertions to this effect were not a substantial finding across the interviews, it demonstrates that the process of video diary keeping is not necessarily suitable for everyone.

Participants were found to actively remove themselves from situations in which they felt uncomfortable. Just under one-third (30.00%, n=9) of participants spoke about "Self-seclusion" during their interviews, as illustrated overleaf.

"[W]hen I started talking about things that were more personal, I only did that when I was either alone in the middle of the park or alone in the car"
(P16, male, age 52, Glass)

It can be seen that there was a clear desire by participants to avoid contact with members of the public whilst recording. Rather than this being strictly device driven, this behaviour appears to be more strongly affected by the perception of how personal the disclosure is, suggesting a desire for privacy to also be a contributing factor. Consequently, this could affect where the videos are recorded and in turn when they are recorded and how relevant the visual material included is.

5.2.5. Social perception

Almost all participants, 93.33% (n=28), spoke about their perception of public acceptance of the device used or the process of recording video diaries. For those using Glass, comments were predominantly more negative but participants expressed the view that they felt the device would become acceptable given time and greater visibility.

"I think it could have the potential to be more publically acceptable in the future hopefully, just not yet"
(P6, female, age 21, Glass)

A couple of participants expressed a more positive perception of social acceptance towards Glass, however these were in a minority and have acknowledged that there may be some reservation from others.

"I would imagine and drawing on some of my own thinking as well I would say that it's acceptable to use it, people might think that you're a bit of an idiot wearing something like that . . . I can't imagine society's overly friendly

towards them but is probably accepting"
(P15, male, age 25, Glass)

In contrast, those using smartphone expressed a much more positive opinion, with no negative thoughts pertaining to acceptability identified.

"I think it's something people are used to because people are used to video conversations, people are used to selfies"
(P21, male, age 28, smartphone)

These findings suggest that smartphone is more acceptable simply because it has been around for longer and has become ingrained into everyday lifestyle. In comparison, Glass is new and public knowledge and understanding beyond that which has been in the press is limited. Notably participants using Glass felt the device could or would become acceptable over time in much the same way as a smartphone with many of the negative assertions placed on a lack of awareness.

Furthermore, it was also evident that participants felt filming video diaries in a point-of-view structure raises concerns around other's privacy. Discussions surrounding "Invasion of other's privacy" were present across a third (n=10) of the participants, with slightly fewer from smartphone participants (4 smartphone to 6 Glass).

"People would probably be scared because you've got a camera pointing at them . . . [they] probably think it's a bit intrusive"
(P8, female, age 28, Glass)

These findings illustrate a conscious awareness of privacy issues amongst participants. Whilst the act of filming point-of-view video allows for a personal visual perspective to be captured, there is a risk of recording identifiable images

and audio of others when in public space. In addition, it is acknowledged by the participants that smartphones have become familiar to such a degree that you no longer really know what people are using them for. In comparison, a new device like Glass does not blend as easily into the background, but in a similar way to smartphone it is not easy to tell what people are using the device for. Consequently, both devices pose a risk to other's privacy from recording in a point-of-view style in public space. That said, two-thirds of participants did not report on these concerns. This could suggest that this manner of 'surveillance', and individuals using personal devices for filming, is now becoming so common place that for some it simply is not as big an issue. Alternatively, as some participants made conscious decisions to film when others were not around, this aspect of other's privacy could have simply not been brought into focus.

Importantly, during the data collection phase of this research study, January to August 2015, Glass garnered a lot of negative media attention, particularly concerning privacy and acceptability. Subsequently, Google ceased sales of the device from 19 January 2015 whilst further development took place. As a result, this could have influenced participant opinion and impacted on the findings presented here with regards to Glass. Whilst an isolated case, the media attention was acknowledged by a participant, as illustrated in the following excerpt.

> *"I think it's not really that well accepted because when Google Glass came out I saw a lot on my social media feeds about what a silly device it was and how people who buy one and wear one are pretentious"*
> *(P10, female, age 23, Glass)*

5.2.6. User experience

Aspects pertaining to the "Convenience" of the device being used were discussed by just under half, 46.67% (n=14), of all participants. Of these, almost twice as

many came from users of smartphones (9 smartphone to 5 Glass). Glass was identified as being convenient through its wearable nature. Similarly, smartphone users felt always having the device to hand, often in a pocket about the person, was beneficial.

> *"I thought it was convenient . . . it was on my face you know; I didn't have*
> *to reach into my pocket to get anything out"*
> *(P1, male, age 22, Glass)*

The wearable nature of Glass allows for quicker access as participants did not have to get their phone out; the device was already setup and ready to record point-of-view footage. That said, smartphones are still seen as being readily accessible. The higher proportion of smartphones commented on as being convenient could be due to greater familiarity with the device and its capabilities. Alternatively, having each participant able to use both devices could yield different results, through allowing them to assess each. As such, smartphone users are at a slight disadvantage as they have not been exposed to Glass. In contrast, Glass participants are highly likely to have also used a smartphone at some stage outside of the study so may subconsciously or consciously be comparing both when reporting on their user experience.

All participants discussed the "Viability" of using Glass or smartphone. Both devices received positive and negative critique from the participants regarding practicality, although Glass was evaluated to have more impractical aspects than smartphone. The two most practical aspects of Glass reported by participants were its hands-free nature and ease of use.

> *"I could record whilst I was doing something else like I was washing up or*
> *taking the lift or cycling . . . I think that in comparison to other media which*
> *is voice recorder or mobile phone or something that you have to hold, after*

a while you just don't want to hold it anymore, you just want to put it down

because your hands are occupied"

(P17, male, age 30, Glass)

The most salient impractical aspects of Glass included overheating, the inability to wear it with standard corrective glasses, and limited battery life. Further, participants commented on the device's lack of independent functionality, offering little more than what a smartphone can already do.

"It also heats up really, really quickly, and I found that I sometimes had to

take it off my head because it was quite hot. It is not so hot that it was

burning it was just uncomfortable"

(P5, female, age 20, Glass)

Furthermore, one participant also noted that wearing Glass is not possible with behind-the-ear hearing aids due to the battery unit on Glass also sitting behind the ear. Additionally, whilst Glass does provide the capacity to purchase custom frames for those who use corrective glasses, it is evident that participants expect to be able to use Glass alongside their existing assistive devices rather than to make additional purchases. Similarly, in their recent comparison of Glass and GoPro technologies in the operating room, Paro et al. (2015) also found Glass to be incompatible with surgical loupes. The current study further highlights this design drawback of Glass.

In comparison, participants who used smartphone reported finding the device easy to use, the recorded output to be of high quality, and the connectivity of the device to other devices and services to be beneficial.

"[It is] cross platform so you can do a lot with it, so you know if it's

something nice or amusing you can slap it on Facebook and it is there [clicks

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fingers] like that. If you don't like it you can delete it and you're in control of
where it's going"
(P11, male, age 41, smartphone)

The main drawbacks reported for smartphones were limited storage space and lack of comfort surrounding the holding of the phone to film. These findings reveal that whilst Glass is appreciated through being easy to operate and hands-free, it has several limitations that impact on user experience which warrant further development. Chalfen (2014) also identified the hands-free design of Glass to be a positive attribute, however the limitations identified in this study were not reported. Should the issues identified be addressed in subsequent versions of Glass, or other wearable recording devices worn about the face, then the user experience should become more positive in these respects.

In contrast, smartphones are appreciated for their ease of use, and ability to control and distribute content. However, this could be due to a greater familiarity with the device, and further the device having been developed over a number of years. Nevertheless, storage space is a drawback on smartphones that needs addressing if individuals are to capture a lot of video footage. Several participants reported the need to delete content to free up space or continually download the videos during the study. Furthermore, the need to hold the camera up to capture footage required more effort than those using Glass. Participants needed to pay more attention to what was being recorded and keep the camera held up in front of them. Consequently, holding the smartphone in this way could become tiresome as was also noted by some participants. Where Glass falls down on viability, smartphone appears to perform better and vice versa.

Interestingly, the "Visual design" of the device was only discussed by those who used Glass. In particular, participants felt that for a device worn on the face it

should be as discrete as possible, as the face is an integral facet of identity and face-to-face communication. In addition, the overall design of the device was evaluated as needing to have a greater aesthetical appeal. A number of participants suggested that Glass should look like an everyday pair of glasses, suggesting that greater acceptability for such a device would be to style it to look like an item already accepted, rather than be innovative. It was also suggested that if the look improved it would be accepted more easily as it would not draw attention.

> *"Not that it is ugly, it's just not something you would be wearing just casually, it's not a casual thing but if it wants to become just a casual part of our lives in the future it needs to kind of adjust to trends"*
> *(P7, male, age 20, Glass)*

The absence of any discussion from those using smartphone with regards to device design could suggest that as smartphones have become an integral part of society over a number of years its design is seen as appropriate and is accepted as such. Although, the design of smartphones has developed over a number of years, which could contribute to this level of acceptance. In contrast, with Glass being both worn about the face and a new device, there appears to be a greater sense of it needing to seamlessly integrate into one's lifestyle.

5.2.7. Video diaries as positive action

Over a third of participants, 43.33% (n=13), suggested that video diaries could be a beneficial tool in documenting various life events. "Audio-visual documentation" was suggested as a positive use for video diaries from over twice as many smartphone participants as Glass (9 smartphone to 4 Glass).

> *"If you wanted to document an event, like if you wanted to, if you went to Pride or something and you had it on, you could just get a view of what is*

going on, that could be quite good"

(P4, male, age 45, Glass)

There could be many reasons as to why someone would want to document aspects of their lives using video, as opposed to say writing them down. It could be that video diaries are seen as being much more evocative of a time and place. The juxtaposition of words with tone of voice, and visual image allowing for a richer reflection than simply words on paper (Holliday 2000, 2004; Pink 2007). The danger with writing is that it can be over-thought, even planned, and is often succinct and formal in nature (Alaszewski 2006). However, with a video diary there are hesitations, changes in tone, and it can, therefore, become much more authentic. Alternatively, given the user experience aspects discussed by participants, it could simply be that audio-visual documentation is seen as a more convenient process than writing it down, especially when on the move.

Interestingly, one participant from each device suggested video diaries could be used to capture incidents of abusive behaviour, illustrated below.

"I think the most use it would be is documenting situations of abuse towards people, because I'd imagine if you did wear it every day, like how cyclists wear GoPro's for when they have accidents, that kind of thing"
(P14, male, age 23, Glass)

"I think it would be great if it actually caught homophobia . . . if I was doing a daily diary and it caught something like that, I think that would be wonderful"
(P19, male, age 28, smartphone)

Whilst not a prominent aspect within the data, this use for video diaries highlights further the issue of prejudiced behaviour towards this population (gay

men and lesbians). Previous scholarly work has revealed prejudiced behaviour to be an issue within the LGBT community (section 2.1.1), and Chapter 3 explored discussions of bullying in online video. Whilst these studies have revealed how this behaviour does occur and how video has been used to support others, here participants suggest video diaries can also be used to help document such behaviour. However, this could raise further questions surrounding other's privacy, as discussed.

The prominence of participants suggesting video diaries captured on smartphone could be beneficial for documenting events could again be due to an enhanced familiarisation with the device and the functionality available. For example, capturing video content on smartphone and uploading it to SNSs is very popular. As such this could be something that immediately comes to mind when participants consider the wider uses of video diaries. In contrast, those using Glass could have a limited understanding of the functionality due to it being relatively new and used offline in this study. Furthermore, as wearable devices become more mainstream it could be that they become more popular for capturing life events. For example, in the second half of 2015, the "Narrative Clip 2" was released. Described as the "world's most wearable camera", it is designed to allow users to capture moments of their life in high definition video (Narrative 2016). This suggests that a market for capturing life events via wearable devices is growing. Moreover, the findings from this study would indicate that individuals wish to capture memories in this way.

Twelve participants (40.0%), split equally between devices, felt video diaries could be used as a form of "Community cohesion" through the sharing of recorded content. The forming and strengthening of ties within the LGBT community and between the LGBT and non-LGBT community were discussed as illustrated in the following excerpts.

"Everybody's got a story and when people see, or hear, these stories they can relate to it . . . I think YouTube videos you can watch and they can say oh yes and everything, but Glass is more intimate, it's more personal, it's being with them in a way . . . you can see what they are seeing rather than seeing the person just talk away because it is point-of-view"
(P8, female, age 28, Glass)

"Sharing [video diaries] with other people, I think shared experiences can be quite powerful because it can help add value to people's experience, and add meaning to their own"
(P21, male, age 28, smartphone)

These findings suggest that video diaries provide unique vignettes into lives which could act as a form of social support, whether through being shared directly or via a closed social network with appropriate safeguards. In particular, the point-of-view aspect was commented on as being a strong facet of the video diary, very much placing any potential viewer into the shoes of the individual who recorded it. As such it could be argued that point-of-view video diaries allow for a much more immersive experience, beyond existing video diary studies where individuals speak directly to the camera (Holliday 2004). Although an isolated case, the suggestion that point-of-view video diaries could be used as a method of reducing prejudice and extend research which has examined the use of video exposure on heterosexual attitudes (Cooley and Burkholder 2011; Levina, Waldo and Fitzgerald 2000).

Whilst there was an element of self-consciousness for all participants, as discussed, it was reported that the process of verbalising and recording thoughts was a positive experience. Moreover, it was suggested that the same process could be of equal benefit to others who identify as LGBT. "Personal development"

was featured in 60.0% (n=18) of participants' interviews, and was more prevalent from those who used smartphone (11 smartphone to 7 Glass).

"Well, talking is so important, and articulating things, giving a voice, I think it's incredibly important. In our daily lives we're so used to speaking in facts and categories and like 'oh what have you done?', 'what are you going to do?', 'what's the weather like?', and yet something that is so easily overlooked is ambiguity and blurred boundaries. That's what feelings are, that is what emotions are, and I think it would be a wonderful opportunity to have this as an arena to give that sort of thing a voice . . . so little are we given the opportunity to question the reasons why we behave in certain ways we do, but through a repeated behaviour such as this, through constantly making films, and constantly talking and reflecting, we can start to notice patterns in our behaviour and only then can we start to reflect on them, and decide actually what is my mind telling me here, why am I so interested in this, why does this keep cropping up, maybe I could do things another way. So it can open an arena where we can actually reshape these patterns in our behaviour, so, yeah, I can see it being almost like a self-psycho-analysis in that sense"
(P20, male, age 30, smartphone)

"Just for private reflection, sometimes that's a really good thing as well because loads of people, especially if they haven't come out they don't talk about it they bottle it and they don't realise eventually the bottle is going to come off and they are going to end up really upset or angry over something and I think maybe private reflection by recording videos may be a way for them to sort of get to grips with their own feelings"
(P5, female, age 20, Glass)

In addition to these examples, other participants also referred to the process as a form of therapy. The act of taking a moment to think about one's own thoughts and to verbalise them rather than simply think about them in a fleeting moment is seen by the participants as a useful means to release inner emotions and assess oneself. Further, they believe this process could be beneficial to others without constraint to any one sexual identity. These findings extend those described under "Self-experience", with participants themselves finding the process liberating and cathartic. In a cognitive-behavioural therapy-based intervention amongst a sample of LGBT people, Ross et al. (2008) identified the act of talking about oppression to significantly decrease symptoms of depression and increase self-esteem. Although outside of the bounds of this study, and therefore not measured, the current findings allude to similar benefits through the act of talking in video diaries. Therefore, the use of video diaries could prove beneficial in similar interventions in the future.

When investigating consumer acculturation, Brown et al. (2010, 428) identified that audio diaries "drew attention to issues that participants may have been navigating, but did not appear to have consciously considered". The findings from this study suggest that a similar effect is facilitated through video dairies, and this is not necessarily dependent on the device used for recording. Just over half of all participants, 53.33% (n=16), indicated that they had learnt more about themselves from their participation. Discussions surrounding "Self-discovery" were split almost equally between devices (9 smartphones, 7 Glass) and focused on a range of topics ranging from the realisation of progress regarding mental health concerns to use of time, as illustrated in the following excerpts.

> "[I learnt that] I have improved a lot in terms of my anxiety in the last few years but that is still an issue . . . so [recording video diaries] made me aware that I have some stuff to work on in terms of that."
> (P5, female, age 20, Glass)

> *"I've started reading more . . . instead of playing on games and stuff on my*
>
> *phone when I'm on the tube and things like that, actually reading because I*
>
> *realised from the video diaries that I spend quite a lot of time wasting time,*
>
> *so it's made me more self-aware of my time and how I allocate that"*
>
> *(P22, male, age 33, smartphone)*

Furthermore, the above example demonstrates how self-discovery from video diaries can motivate positive transformation outside of the bounds of the study.

5.2.8. Statistical differences between devices

The previous sections have discussed qualitatively the differences between devices for each of the identified themes. This section examines these differences in terms of their statistical significance. Six of the codes where there was a difference in prevalence between devices were compared using chi-square testing, see Table 9.

Code	x^2 (1, N=30)	p value
Audio-visual documentation	3.39	.07
Convenience	2.14	.14
Invasion of other's privacy	.60	.44
Personal development	2.22	.14
Self-censoring	5.40	.02
Visual design	26.25	< .001

Table 9: Chi-square testing results for six codes

The results reveal that "Self-censoring" is statistically more significant on smartphone (x^2 (1, N=30) = 5.40, p = .02). Whilst, "Visual design" is statistically more likely to be spoken about with regards to Glass (x^2 (1, N=30) = 26.25, p < .001). As discussed, a contributing factor to this could be the degree of familiarity with the device in question. Interestingly, it could be expected that "Audio-visual documentation" and "Convenience" would also show a significant difference due to familiarity with smartphone devices. However, no statistical difference was found for these, nor the other codes tested with chi-squares.

Whilst these items were discussed somewhat more from participants who used smartphones it suggests that wearable devices, such as Glass, are just as convenient and beneficial for video documentation. A larger sample size would need to be investigated to either prove or disprove this hypothesis.

The remaining three codes which showed a difference between devices were tested using the Fisher's Exact test as their expected frequencies are less than 5, meaning chi-square testing is inappropriate. No statistically significant differences were found for "Facilitation of interior monologue" (p = 1.00), "Self-experience" (p = .48), or "Self-seclusion" (p = 1.00).

5.2.9. Summary of findings

The key findings from this chapter are:

- The process of recording video diaries could be beneficial as a personal development exercise, similar to the reported therapeutic benefits of recording written and audio diaries (Brown et al. 2010; McGregor 2006). In particular, point-of-view video diaries may enhance existing talking therapies which have been shown to reduce depression amongst this population (Ross et al. 2008).
- Feelings of self-consciousness were attributed to the act of talking to oneself in public and an increased awareness of what was occurring in the immediate vicinity. Moreover, Glass added to these feelings through the design and placement of the device, leading to participants feeling exposed and, in some cases, actively secluding themselves from certain situations. This both supports and extends the findings of McNaney et al. (2014) who attributed self-consciousness to the visual design of Glass.
- Glass was not considered to be as acceptable in society as smartphones, however there is a belief that this will change as the device gains exposure and dominance. This is a significant finding as Glass-based research to date has been restricted to medical applications (Armstrong

et al. 2014; Bizzotto et al. 2014), therefore, these findings provide a wider perspective on the device's use in a public arena. Importantly, these results may be skewed by the negative press Glass received during the data collection phase of this research study (BBC News 2013).

- Point-of-view video diaries appear to extend the facilitation of interior monologue present in audio diaries (Worth 2009) which has not been reported in other video diary studies where the participant speaks directly to the camera (Buchwald, Schantz-Laursen and Delmar 2009; Holliday 2004; Noyes 2004). This finding could significantly impact the use of point-of-view video diaries in future research which requires a high degree of self-reflection.

- The wearable nature and ease of use of Glass were seen favourably, allowing for the participants to easily continue with other tasks whilst recording. However, a limited battery life and inability to wear with one's own corrective glasses are detrimental to the device's practical applications, which supports the findings of previous research (Armstrong et al. 2014; Muensterer et al. 2014; Paro et al. 2015). Furthermore, a significant contribution from the current study to these known limitations is that Glass is also incompatible with behind-the-ear hearing aids.

5.3. Conclusion

The purpose of this study was to understand users' experiences of recording point-of-view video diaries using Glass and smartphone. Focus was placed on the practical aspects of these devices and applications for their use outside of the bounds of this study. Further, the analysis has identified behavioural and social factors that manifest at different points during the recording process.

The next chapter discusses this analysis, along with those from chapters 3 and 4, to explain the results and their significance in relation to existing research.

Chapter 6:   Discussion

This thesis presents the results from three studies carried out to expand knowledge and understanding on the use of VMC within the LGBT community, particularly amongst gay men and lesbians. The previous three chapters have presented, through a predominantly qualitative analysis, the content which is disclosed in online and offline video. Firstly, an analysis of online VMC amongst the LGBT community as a whole was carried out. Following the outcome of this investigation, a smaller subset of the community was selected for a more focused examination of offline VMC via video diaries. In addition, the use of wearable and handheld devices for the capturing of video diaries has also been examined. The way in which these studies intersect is illustrated in Figure 19. It is argued that online video provides an avenue by which individuals can seek solidarity and engagement from viewers whilst individuals also act prosocially through the disclosure of experience. These findings both extend and support existing literature (Alexander 2004; Alexander and Losh 2010; Krasnova et al. 2010) whilst also proposing that the online disinhibition (Suler 2004) alters when the individual becomes visible through the use of video. The examination of offline video allowed for the identification of differences between gay men and lesbians. Moreover, the findings suggest that Glass facilitates a higher degree of disclosure for some themes and importantly maintains a higher degree of situational context compared to smartphone devices. The content also provides insights into factors affecting this minority group, particularly highlighting isolation from society as a recurring theme. Given the influence media can have, the need for balanced and appropriate representation of gay men and lesbians is made evident. Additionally, it is suggested that these videos could be shown to heterosexuals to help mediate a more positive attitude towards homosexuals. Although users identified limitations to Glass which support existing scholarly work (Paro et al. 2015), there is evidence to suggest that the act of recording video diaries on either Glass or smartphone can facilitate a therapeutic process.

These findings could influence future talking therapy interventions not only for gay men and lesbians but also the wider community, particularly those aimed at reducing depression.

This chapter discusses the implications of these findings in more detail, addressing the aims presented at the beginning of Chapters 3, 4, and 5 in relation to previous research. Furthermore, the importance of understanding not only the way in which VMC is utilised by this minority group but also the disclosures that are made is emphasised.
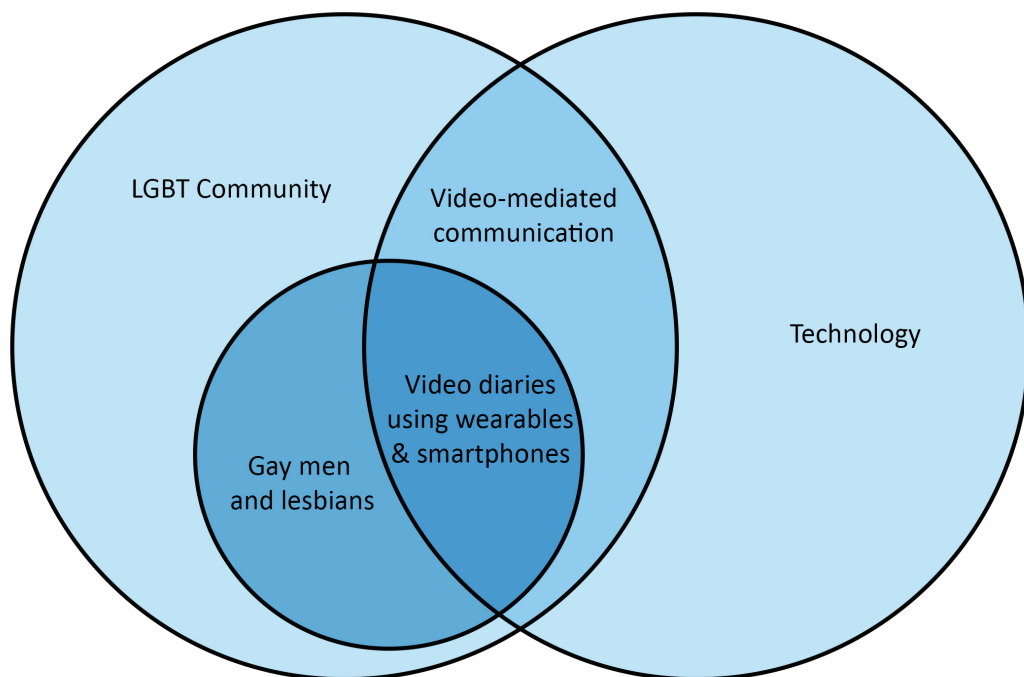
Figure 19: Illustration of how the various components of this thesis intersect

6.1. Discussions of prejudiced behaviour towards the LGBT community

Chapter 3 specifically investigated the discussion of LGBT bullying within the LGBT community. These findings extend the existing literature which has examined the disclosure of personal information online via both text and video-based methods with a particular focus on identity and the coming-out narrative

(Alexander 2002a; Alexander & Losh 2010; Drushel 2010; Lang 2008; Munt, Bassett & O'Riordan 2002; Rak 2005). Individuals were found to speak about their own bullying experience as well as those of third parties, with the latter being more prominent when discussing those who have committed suicide. Discussions of traditional, offline, bullying experience were more prominent than cyberbullying experience and were more powerful through the combination of visual, non-verbal, facets and the verbal narrative of the incident. It is argued that the discussion of bullying experience, whilst deeply personal, is an act by which individuals can seek solidarity and engagement from viewers. Building on the work of Krasnova et al. (2010), who identified the perceived benefits of friendship and enjoyment to outweigh privacy risk in the disclosure of information in online social networks, the disclosures identified in this study suggest these aspects also extend to video-mediated communication, at least within this community. The disclosures can be acts of reaching out to others who have been or are in a similar situation, with the benefit of letting others know they are not alone or gaining support out-weighing the risk of making such a statement. Although this assumes those watching the video are able to identify with the experience. Additionally, disclosures pertaining to the impact of cyberbullying experience reinforce previous research (Dooley, Pyżalski and Cross 2009; Grigg 2010) which has highlighted the need for definitions of cyberbullying to consider the number of times a single act of online aggression is witnessed.

Whilst discussions surrounding prejudiced behaviour were not specifically sought from the video diaries (Chapter 4), feelings of isolation from society were identified. Encompassing lack of acceptance, LGBT representation, and stereotypes, this theme alludes to a current, and continued, prejudiced attitude of others towards those who identify as either a gay man or lesbian. Whilst the western world has made positive steps to become a more inclusive and accepting society there is still, to a large degree, an underlying aspect of feeling isolated. The findings demonstrate how these feelings are not just the product of

interpersonal attitudes but also of political and media-based influence. Interestingly, a divide was clear between men and women regarding representation. Lesbians felt underrepresented in the media, whilst gay men acknowledged they are represented but felt these representations were often over sexualised and portrayed negatively. Given the media has been shown to influence other's attitudes towards homosexuals (Cooley and Burkholder 2011; Levina, Waldo and Fitzgerald 2000; Schiappa, Golom and Mohr 2011; Gregg and Hewes 2005) it is important that these representations are carefully considered. The media plays a powerful role in society, with the findings from this study highlighting its negative impact on feelings of belonging. It can, therefore, be hypothesised that if media portrayals not only become more authentic, but more balanced between lesbians and gay men that this would in turn help to shape a more positive attitude. This may not necessarily be at a societal level, but at a personal level for those who identify as either a lesbian or gay man.

This thesis has demonstrated how discussions of prejudiced behaviour vary between online and offline VMC. Online discussions have a prosocial focus, a means by which to seek and provide empathy and support. As such, it can be surmised that the disclosure of sexuality, together with experience can allow for reciprocity. Whilst deeply personal, the perceived benefit to others who may be struggling with their own experiences outweighs any perceived risk from sharing such information in a non-anonymous way. Offline discussions are more negative in tone, the nature of the diary means there is no avenue by which to seek and provide support. Instead the reflections highlight wider facets of society that contribute to feelings of isolation whilst allowing individuals to reflect on how these aspects make them feel. Furthermore, these findings provide valuable insights into the lived experiences of these social happenings. Particularly at a time when the media has brought into focus the detrimental effect these experiences are having on individuals who identify as non-heterosexual, including in some extreme cases queer youth suicide.

6.2. Self-disclosure in video-mediated communication

6.2.1. Online video

The analysis of online video content has revealed how contributors talk candidly, and in detail, about themselves and their experiences. This is similar to previous scholarly work which has identified individuals to use video to openly discuss their coming out journeys (Alexander and Losh 2010) and seek new partners (Lazzara 2010). The findings are contrary to the online disinhibition effect (Suler 2004), which describes how anonymity is a contributing factor as to why individuals disclose more online than in a face-to-face situation. This is true for text-based methods, however the findings suggest the effect changes when the self becomes visually public. Viewers can ascertain a degree of information about an individual's demographic and physical appearance from the visual alone, which is then supplemented through the verbal disclosure of personally identifiable information such as name, age, and hometown. Consequently, video disclosure cannot be viewed as anonymous. However, there still remains a degree of control in what is disclosed beyond that which can be visually ascertained, experiences and personal opinions can be withheld which would otherwise provide a greater understanding of the individual. Alternatively, for some individuals there may simply be a lack of awareness of the wide potential audience able to view the content they are producing. Mowlabocus (2009) described how the inclusion of a profile photo can demonstrate investment and visibility in an online community. Similarly, the showing of the self through the medium of video could equally suggest an investment by the contributor. They could engage via commenting on existing videos but instead choose to increase their visibility and in doing so are showing their commitment to the community. Importantly, in text-based communication it is up to the viewer to process and interpret meaning from the text, in video communication this mental processing is redundant. Viewers can ascertain feelings and emotion from both the way the disclosure is made and the associated non-verbal cues, such as facial expression. Disassociation between the aspects of face-to-face conversation and the wider

world in which the disclosure will be published allows contributors to detach from the normalities of having a synchronous rhetoric. Contributors often film their video in a personal environment, then broadcast it publicly. The process of recording acts as a conversation with an audience they can never, or can not, physically have or deal with the complexities of. This could be due to feelings of unease about opening up to a physical person, or they do not perceive that they have someone they can talk to about such matters. Essentially the video substitutes reality and becomes a confession of life. Interestingly, Gudelunas (2012) identified the disclosure of personal information pertaining to sexual orientation to be more prevalent on websites aimed at homosexuals compared to general audience websites. Given that YouTube is a general audience site the findings of this study would suggest that the perceived audience also influences disclosure. These online video disclosures are directed at the LGBT community, therefore, as the content is aimed at a non-heterosexual audience it could have a similar effect even though the site as a whole is for a general audience.

It can be hypothesised that online video is not just a way to express oneself but is merely the start of a journey; a journey to seek friendship and support as well as a means by which to reaffirm online, and offline, identity. Although some personal disclosures may have negative aspects, in making such statements a contributor is actively seeking a positive outcome, the forming of new connections and cyber-friendships without the boundary of physical location. Whilst explicit disclosures of empathy may appear minimal, the disclosure of personal experience in video allows the contributor a degree of empathy with the viewer, as well as a means by which to seek empathy, they can identify and associate with each other. Furthermore, by allowing viewers to identify and relate to experiences, contributors are themselves acting prosocially. Disclosing personal information can allow viewers to have a greater sense of connection with the individual speaking. They are not simply strangers in a video who you know little about, they could be your neighbour, a colleague, a friend. They

weave a narrative about themselves with such apparent ease that viewers can feel like they know them. Furthermore, viewers may be able to identify with the experiences described and offer support through the comments they leave or may even consider producing their own video to support others in a similar fashion.

6.2.2. Offline video

The analysis of offline videos, captured as point-of-view video diaries, revealed a diverse range of discourse surrounding society, identity and personal life. Participants reflected upon both positive and negative aspects of their lives, demonstrating that the video diary does not simply facilitate the disclosure of one stream of thought focused on any one emotion. Some of the video content was deeply personal, illustrating that participants were comfortable in disclosing, and documenting, their reflections in verbal format. Similar to the findings in online video, and unlike text-based methods, this allows for feeling to be better disseminated in the communication as nuances in tone of voice are retained in the reflection. This reaffirms existing literature which has identified video as both a place for a greater degree of reflection than other methods (Holliday 2004) and a rich source of data (Pink 2013).

Interestingly, discussions focused on personal narratives, such as coming-out, were more often filmed in a private location. In comparison to existing literature that has identified these narratives as being openly shared online with a global audience (Alexander and Losh 2010), the findings here suggest that whilst participants may be happy for others to hear their stories they only feel comfortable talking about them in private. This would also fit the online scenario where these videos are often also filmed in private locations such as bedrooms.

Self-disclosure between men and women was statistically different for three of the identified codes, as a result it can be hypothesised that lesbians are less

inclined to speak about physical health and will speak more about their coming-out journey in video diaries. This could indicate that lesbians find reflective journaling in this format a useful tool in identity reaffirmation. It has previously been reported how lesbians feel uncertain and have many mixed feelings during the coming-out process (Markowe 2002). As well as supporting this assertion the findings in this study suggest that due to these mixed feelings the video diary is a place by which these previous thoughts can be re-assessed. Alternatively, the video diary could form part of a larger journey of identity development for lesbians, as the participants in this study were also found to speak more so about gender expression than gay men. In contrast, gay men were statically more likely to speak about physical health. This supports existing literature which has reported gay men to have high body concern and muscularity dissatisfaction (Tiggemann, Martins and Kirkbride 2007; Yelland and Tiggemann 2003).

It is important to note that many reflections are retrospective and as such could be reinterpreted during disclosure. Moreover, there could be a performative nature to the diaries in them being completed for research rather than solely personal consumption. Butler (1999) brought into focus the concept of performativity, which argues that identity is merely a set of compulsory and complex performances. It can, therefore, be seen that the video diaries are simply a recorded set of performances. However, it remains unclear as to which are voluntary performances and which are compulsory and everyday performativities. In contrast, Brown et al. (2010) assert that a benefit of the video diary is that it captures a participant's performance of their culture. Nonetheless, the current study brings into focus the diverse array of factors that are important to this community, providing space to verbally reflect in public or private. Notably, the analysis of video diaries has highlighted aspects of everyday life that could be taken for granted. For example, it could be perceived that gay men and lesbians would feel more accepted with the introduction of various legislative measures. However, it is clear this alone is not enough and more

consideration needs to be taken with regards to media representation. Furthermore, as family acceptance has been shown to reduce depression and increase self-esteem (Eisenberg and Resnick 2006; Ryan et al. 2010) interpersonal attitudes are of equal importance. Although it is noted that this latter point could be particularly challenging given the influence of cultural and religious backgrounds on attitudes (Adamczyk and Pitt 2009; Schulte and Battle 2004).

6.3. Capturing reflections using point-of-view video diaries

6.3.1. The benefits and risks of point-of-view recording

The degree to which the visual aspect of the video diaries was utilized varied. Content focused on tangible objects such as books, magazines, gender expression (clothing), buildings, often showed the item in question in the video. More general reflections about lifestyle and everyday thinking where a visual is not always feasible were found to often take place in visually secluded locations indoors or outside. Whist a written diary can include artefacts such as cut outs (Carter and Mankoff 2005) what can be included is limited. For example, an online news article would require printing or a piece of architecture would need photographing and printing. In contrast, the point-of-view nature of the video diary in this study allows for these artefacts to be included relatively effortlessly. The position of Glass at eye-level means the participant simply needs to look at the item in question. For those using smartphone they can aim the camera at the object and it is captured alongside their verbal reflection. The need for further processing or work is negated. Therefore, the point-of-view video diary provides a visually richer experience than in other video diary studies were the participant sits in front of the camera (Holliday 2004) or where the camera is in a fixed location which further inhibits the aspects it can capture (Katzeff and Ware 2006; Noyes 2004).

Whilst the recorded visual may not necessarily be fully representative of the verbal content, the very fact that this content has been included, to any degree, alongside verbal content highlights the video diary as being a place to not only reflect but also capture visual cues to items of personal value. A key benefit identified in using Glass for the recording of video diaries was that of increased visibility of situational context. As the device sits in a fixed, head-mounted, position it always captures a point-of-view visual based on the direction the participant is looking. In comparison, smartphone requires more exertion from the participant. They need to hold the smartphone in an upright position, in front of oneself, and ensure the video is capturing a relatively point-of-view visual. This can become tiresome, particularly in contexts where there is not a specific object to film, and as was found in the findings of this study the visual ends up becoming more throwaway. The smartphone ends up being held in a more comfortable position with the camera facing the ground. Whilst this still allows for some identification of situation, i.e. outdoors or indoors, further information such as is the location an urban or rural environment, and are there many people around, is lost. In contrast, the wearable nature of Glass allows for a much easier method of data collection which consistently shows a high degree of situational context. As a result, point-of-view video diaries have the power to transport any viewer into the shoes of the individual recording the diary, particularly with those recorded on Glass. This can provide a deeply engaging audio-visual experience which can be far more evocative and allow for a rich understanding of the life of gay men and lesbians, or indeed anyone, than simply words on paper. This supports Bates (2013, 35) who describes the video diary medium as being an "ideal device with which to bring living, feeling, breathing bodies to the screen". Whilst this is still possible on videos recorded on smartphone, in some cases if the video is not recorded at eye level the effect is not as strong. Undoubtedly this point-of-view style has been a benefit in medical applications in the documentation of medical procedures (Armstrong et al. 2014; Muensterer et al. 2014; Paro et al. 2015). The results presented in this thesis also

demonstrate the benefit of such visual imagery in the sharing of reflections in video diaries. Chalfen (2014) asserted that video captured using wearables can allow for new interpretations of the social word. The findings of this study support this claim, and demonstrate that wearables allow for this interpretation more so than smartphones. Moreover, the results from this research study clearly illustrate how these beneficial visual features of Glass can provide an immersive experience, which could also enhance first-person documentaries as described by Pavlik (2015).

Although the point-of-view nature of recording is beneficial, several participants expressed a privacy concern for others who may be incidentally included in their recordings. Interestingly, this was the only concern participants had with regards to the point-of-view nature of the device. Although, this does have the potential to be a risk if a member of the public were to take offence to being filmed and accost the individual concerned. However, it was acknowledged that due to the prominence of smartphones and their acceptance as an everyday object, many may simply not notice or even be aware of what others are doing with this device. Glass, on the other hand, was felt to be less accepted, although could be given time. Participants felt it drew a lot of attention to itself as it is not widely used. Moreover, given the press Glass received prior to and after its launch surrounding privacy (BBC News 2013; Fox-Brewster 2014) this could have influenced opinion.

6.3.2. Wearable vs. handheld devices

The nature of the video diary being a personal reflection allowed participants to verbalise and organise their emotions, without needing to have, what could be, a deeply revealing conversation with a physical person. Themes focused on aspects pertaining to identity and isolation featured more highly on Glass than smartphone. Although not a statistically significant finding (see section 4.2.11), the results suggest that Glass could facilitate a higher degree of self-reflection.

This could be caused through disassociation with the recording device due to it being worn about the body. This could be caused in a similar way to how the disassociation from having a face-to-face conversation affects online discourse (Suler 2004). In comparison, smartphone is held and as such you are aware of what you are doing, you cannot get on with another task as you are physically holding the recording device in your hand.

Of all seventeen codes identified in the video diaries (Chapter 4), "LGBT Representation" was the only code found to solely be discussed on Glass. It can, therefore, be assumed that the wearable nature of Glass provided a more practical method by which participants could hold visual artefacts such as magazines and books, or scroll through websites with ease through having both hands free from recording. Furthermore, the hands-free nature of Glass allows for a more instantaneous recording process. As the device is worn, as soon as a reflection comes to mind the participant can easily begin recording as they are continuing with the task at hand. This was seen favourably by the participants who used Glass. With other methods such as needing to set up a camera and tripod (Holliday 2004) or enter a diary room (Katzeff and Ware 2006) this natural reflex to reflect in the moment is inhibited. Similarly, for smartphone, participants would need to stop, get their phone out, get to the camera, frame the shot and record, again slowing down the recording process.

Familiarity with the device plays a crucial role in the perception and use of both Glass and smartphone. Participants strongly disliked the visual design of Glass, suggesting that it needed to be more discrete and fit more seamlessly with everyday life. In addition, the visual design was found to affect self-consciousness, with participants feeling exposed and looked at. This is similar to the reported findings of McNaney et al. (2014) who investigated the use of Glass as an assistive device for those with Parkinson's disease. Further feelings of self-consciousness on both devices in the current study were attributed to the act of

talking to oneself in public. As a result of these feelings, participants reported actively secluding themselves from situations where others would see them wearing the device. Although disclosures took place outside as well as inside, the findings suggest that there is an element of privacy control in either location depending on the nature of the disclosure. This would imply that whilst participants navigate their stream of consciousness they are not fully disassociated from the world around them and are conscious to only share some reflections in certain environments.

The act of editing content, for example deleting and reshooting, was identified as being statistically more likely to occur on smartphone than Glass. It could be that participants were simply more familiar with their smartphones and so this act of self-censoring was easier to complete. Alternatively, participants may simply have not disclosed this behaviour. It has been reported that allowing participants the ability to edit and rerecord their content results in greater degree of reflection (Holliday 2004). However, participants in the current study reported their acts of self-censoring were simply due to a dislike of the content captured and did not express a positive impact of this on their reflective process.

From a practical perspective Glass has some fairly substantial limitations. In line with other research using this device (Armstrong et al. 2014; Paro et al. 2015), the inability to wear it with one's own corrective glasses influenced both the participants who could use the device for the purpose of this research study but also those who wear glasses on an ad hoc basis. In addition to this, the current study identified that the design of Glass is also incompatible with behind-the-ear hearing aids which has not been previously discussed in the literature. This potentially prevents a segment of society from being able to fully harness the benefits of capturing point-of-view video. Similar to the findings of Muensterer et al. (2014), battery life was limited when recording video on Glass, which further added to a perception of impracticality amongst participants. Although

ease of overall use, including the hands-free nature, was seen as redeeming features. In contrast, the only negative facets reported for smartphones were that of a lack of storage space and lack of comfort for filming with the phone held out in front of oneself. This further supports the assertion in section 6.3.1 which described the handheld nature of smartphones as being an influencing factor in the lack of visual relevance for diaries filmed on this device.

During the interview process participants revealed how expressing their thoughts verbally often led them down pathways they were not expecting. Interestingly, the narrative aspect of the video diaries was found to facilitate this process rather than the visuals being looked at. Whilst the visual may provide a starting point, the thought process was found to naturally wander. Worth (2009) identified a similar effect in audio diaries, however video diaries in which the participant is situated in front of the camera (Buchwald, Schantz-Laursen and Delmar 2009; Holliday 2004; Noyes 2004) have not reported this effect occurring. This could imply that either the portability of the recording equipment, the point-of-view nature, or both, in this study are contributing factors to this effect. Interestingly, the device used for recording was not found to influence the effect, suggesting further it is the act of what is being done which helps to facilitate this outcome.

6.4. Implications

The results of this thesis have several implications for intervention strategies aimed at supporting gay men and lesbians, the design or wearable devices, and for the wider research community looking to use the wearable video diary.

6.4.1. Intervention strategies

Whilst the act of speaking out loud to oneself impacted on self-consciousness participants expressed a therapeutic side to this process. Taking a moment to reflect and consider one's own thoughts allowed participants to assess their own

emotions. McGregor (2006) and Brown et al. (2010) noted similar therapeutic benefits with written and audio diaries respectively. In their video diary study, Holliday (2004) viewed self-censoring as a means for enhanced self-reflection. In contrast, the results of this study suggest it is the act of speaking out loud that is viewed as a means to enhance reflection, rather than the recording or editing of content. Consequently, the point-of-view video diary could have the potential to enhance the mental wellbeing of LGBT individuals. Specifically, diaries recorded in this manner could broaden and enhance existing talking therapy interventions which have been shown to reduce depression amongst this population (Ross et al. 2008). However, these positive attributes of recording may not be limited to this population, and could extend to any individual of any background. Moreover, the inclusion of visual artefacts could allow practitioners to identify possible visual triggers that act as either negative or positive influencers on an individual's mental wellbeing.

The findings highlight feelings of isolation amongst gay men and lesbians and some of the underlying reasons for this. Women feel underrepresented in the media, with few lesbian protagonists. In contrast, men feel that gay characters are over-sexualised with a focus on sexual deviance. Given the power of the media in influencing others' attitudes there is a need to ensure any representations are as authentic as possible, rather than playing on stereotypes or being completed omitted. In turn these positive media reinforcements could drive a more positive, and less prejudiced, attitude amongst others. Moreover, this could reduce the feeling of isolation amongst gay men and lesbians.

The role of pro-gay media has been shown to positively influence heterosexuals' attitudes towards lesbians and gay men (Cooley and Burkholder 2011; Levina, Waldo and Fitzgerald 2000). These studies suggest a relationship between visual media and attitudes such that the former can have a positive influence over prejudice. Contact theory (Allport 1954) describes how prejudice can be reduced

through the promotion of interaction between different groups of people. This effect has been demonstrated in physical contact between heterosexuals and homosexuals (Herek 2000a). Moreover, the findings of Cooley and Burkholder (2011) suggest this theory can extend to visual media with video only contact found to support attitude change. Given the immersive experience point-of-view recording facilitates, placing any viewer into the shoes of the participant, this media genre may further enhance the positive influence of pro-gay media on attitudes. Furthermore, this type of recording may also help to facilitate a more positive attitude towards other minority populations who face prejudice. The sharing of experiences could build stronger connections within a community through viewers gaining an enhanced insight into the lived lives of others. However, it is argued that whilst the media has the power to disseminate a large number of messages, the audience has their own set of opinions on these issues and neither has a greater power relationship over the other (Gauntlett 2008). Therefore, further empirical research is required into the influence of point-of-view video on attitudinal change.

Interestingly, participants expressed that the point-of-view nature of the video diaries could be used to help tackle acts of prejudiced behaviour. This could be in a similar way to how individuals capture hate crimes on their smartphone as is all too often shown in the media. As discussed throughout this thesis, feelings of lack of acceptance are strongly felt amongst gay men and lesbians and influenced from a number of factors. Importantly, this possible use of the point-of-view video diary further highlights how prominent these feelings are in the minds of gay and lesbian individuals and further, a desire to bring focus to ongoing prejudiced behaviour.

6.4.2. Design of wearable technologies

The visual design of wearable devices needs careful consideration. Devices need to be practical whilst also effortlessly and seamlessly fitting into existing lifestyles. Wearable devices have an upper hand compared to smartphones as they allow individuals to capture in a hands-free way and maintain a point-of-view perspective. However, acceptance in society is a hurdle that needs to be overcome. The results of this thesis suggest a positive step in this process is to create wearable devices that extend recognised objects already in society. For example, Apple's Watch extends the traditional analogue or digital watch. Whilst Glass' design was founded on a pair of glasses, it was identified that the visual style was altered too much resulting in a product that was not just technologically advanced but bore little resemblance to something familiar in society. This also meant participants felt uneasy wearing the device as it made them look visibly different, more so than if they had just been wearing corrective glasses. Furthermore, when designing head mounted devices further consideration needs to be given for other assistive devices that may be used, such as hearing-aids.

Privacy is a large issue, particularly with the front-facing camera and the press' coverage of privacy invasion. The results reveal how the front-facing camera is beneficial for the capturing of video diaries so it is suggested not to remove this feature but perhaps make it more obvious when recording is taking place. Through a method of feedback, similar to the red recording light on video cameras, there could be a reduction, or even complete removal, in the "what if they are recording me" question.

6.4.3. Video diary methodologies

The point-of-view video recording style was found to provide a rich source of information which extends the video diary methodology (Pink 2013). This method of capturing lived experiences can provide researchers with additional

facets of information not previously obtained within diary rooms or through using video cameras. Elements such as a wider array of visual artefacts and the situational context of the recording can be analysed alongside the disclosure made. This diary method is not constrained to gay men and lesbians and could provide insights into any community. Point-of-view diaries, specifically those filmed using wearables, could also benefit healthcare provider in allowing for the capturing of lived experiences which can then be analysed to ascertain possible care regimes. Importantly, any research study that uses wearable devices and point-of-view video diary capture need to consider both the device used, the population and the locations in which recording could take place. For example, Glass was identified as making participants feel self-conscious, if they were already self-conscious because of their sexual identity then this could impede reflection rather than aid.

6.5. Conclusion

In this chapter the results from the three studies carried out are synthesised and discussed. The findings provide insights into the lived experiences of gay men and lesbians. Furthermore, the point-of-view video diary is seen as a beneficial experience for the participant, and rich source of data which extends existing video diary methods for the researcher. The positive and negative attributes of using wearable and handheld devices are analysed. Finally, the implications from the findings of this thesis are discussed. The next chapter will provide a conclusion to this thesis whilst identifying the limitations of this work and directions for future work.

Chapter 7:   Conclusion

One of the key challenges that we are currently facing as a society is that of prejudiced behaviour and the impact this has on individuals who identify as either a gay man or lesbian. CMC is a popular method of engagement amongst this community (see section 2.2.2) and VMC has expanded the methods by which individuals can seek and share support (see section 2.3.2). In addition, a great deal of scholarly work has focused on the construction of identities in these spaces. Exploring the everyday lives of this community further could enhance understanding of matters that influence and affect daily life, and also allow for the identification of alternative support mechanisms.

Through a series of studies this thesis has analysed the disclosures made in online and offline video as well as the practical implications of using wearable and handheld devices for the recording of video diaries. The results reveal an underlying theme of lack of acceptance and also how the point-of-view video diary, particularly using wearable devices, provides a rich research method. There is also evidence to suggest that wearable devices facilitate a higher degree of personal reflection. Finally, the further applications of the point-of-view video diary are discussed along with how the design of wearable devices can be improved.

7.1. Research questions addressed

Overall, this thesis has addressed three research questions:

1. How is online video-mediated communication utilised by the LGBT community and straight allies to disclose information specifically relating to LGBT bullying?

This question was addressed in Chapter 3. The results show that individuals are happy to disclose deeply personal information to a global, and largely unknown, public audience. Online video was found to be a location where members and supporters of the LGBT community openly discussed their feelings, providing and seeking friendship and offering support to others. The perceived benefit of making such disclosures, combined with disassociation from having a face-to-face conversation can be seen to outweigh any risk.

2. How do gay men and lesbians utilise personal, point-of-view, video diaries to reflect on their everyday lives?

This question was addressed in the diary study carried out in chapter 4. Disclosures pertaining to a feeling of isolation in society highlight a continued level of prejudice towards this population. Significant differences were found in the disclosures between gay men and lesbians for the topics of physical health, stereotypes and coming-out. In addition, themes that focused on identity and isolation appear to feature more highly in videos recorded using Glass, suggesting a level of disassociation due to its wearable nature. The point-of-view recording style allowed for both the inclusion of tangible artefacts to enhance the reflective narrative and, from a research perspective, allowed for the identification of situational context. Furthermore, the wearable nature of Glass appears to allow a more instantaneous recording process which can be completed whilst carrying out other tasks.

3. What are the practical implications of using wearable and handheld devices for the capturing of point-of-view video diaries?

This question was addressed from the interview study carried out in chapter 5. Glass was found to be less accepted than smartphone however this could be skewed by negative press at the time. The hands-free nature of Glass was

viewed favourably, although its visual style influenced an increase in self-consciousness. Smartphones were viewed to be more acceptable in society but the point-of-view recording style, holding the device in front of oneself, became uncomfortable for some. Significant differences were identified between devices regarding visual design and self-censoring, highlighting the role of familiarity in both the perception and use of the devices. The process was described by users of both devices as being useful as a therapeutic or self-development exercise. Furthermore, recordings could be used to help document instances of prejudiced behaviour.

7.2. Contributions

This thesis offers a number of contributions to the research community. Firstly, video content coding schemes (see sections 3.2.2 and 4.2.2) with good inter-coder reliability have been established for online and offline disclosures. Although developed with a specific sample for this study the scheme can be used as the basis for coding schemes needed in future research of video content in this, or a similar, area. For example, the analysis of video content focused on the lived experiences of those of non-Christian religion, or even non-British descent, in the United Kingdom, may benefit from many of the themes and codes already identified.

The analysis of online video content has identified that the online disinhibition effect (Suler 2004) alters when the self becomes visually public in the video medium. Moreover, the disclosure of personal information in online video can be viewed as an act of prosocial behaviour. The themes identified from the analysis of personal video diaries strengthen and build upon existing literature. Particularly the identification of feelings of isolation has led to a deeper understanding of the influencing factors. LGBT representation has been identified as a key area that requires further consideration in society. The provision of more authentic representation and increased lesbian visibility is

required. This finding is particularly important considering the positive impact pro-gay media can have on others' attitudes (Cooley and Burkholder 2011; Levina, Waldo and Fitzgerald 2000). Moreover, these representations can be of benefit to gay men, lesbians and the wider LGBT community as they navigate their experiences and sexual identity (Marwick, Gray and Ananny 2014). Importantly, the very nature that these feelings were identified, provides evidence that these feelings are prevalent amongst this group. They are not just confined to online disclosures of support and solidarity but influence and are influenced by everyday experiences.

Video diary studies appear to have focused on the provision of a diary room (Katzeff and Ware 2006; Noyes 2004), participant controlled talking directly to the camera setup (Holliday 2004), or 'walking with video' (Pink 2007). This thesis provides empirical evidence into the use of participant controlled, point-of-view video diaries. As well as expanding this branch of visual methodologies it adds to the growing body of research surrounding the use of VMC amongst the lesbian and gay community, specifically with regards to the disclosure of lived experience. Furthermore, this thesis has identified point-of-view video diaries to facilitate a degree of interior monologue not reported in other video diary studies.

To date the literature concerning the video capabilities of wearable devices has predominantly been focused on sport (Dinhopl and Gretzel 2014) and medical applications (Armstrong et al. 2014; Bizzotto et al. 2014). This thesis has provided empirical evidence into the use of wearables, specifically Glass, and smartphones for the capturing of point-of-view video diaries amongst a sample of gay men and lesbians. Glass has been identified as facilitating the discussion of a greater range of topics than smartphone, illustrating the benefit wearable devices can play in visual ethnography. Furthermore, this method of capturing reflections has been identified as a beneficial tool for personal development and has potential

applications in the shaping of positive, and inclusive, attitudes. This is not just of benefit to the gay and lesbian community but potentially to anyone. In addition, considerations for the design of wearable devices based on user experiences have been given.

7.3. Limitations and future work

This study had a few limitations related to the data collection methodologies used. Firstly, the YouTube Data API used in the first study (Chapter 3) whilst providing an effective way of collecting video data, restricted the total number of results per API call. Additionally, the API was found not to search sequentially through the YouTube database and as a result returned duplicate entries. Whilst these imperfections are acknowledged, they should have relatively little impact on the findings as random sampling was used to obtain a cross-section of the unique video results. Despite the keywords used to identify relevant videos (section 3.1.1) based on the social phenomenon being investigated and the widely used LGBT acronym, it is recognised that there are other similar phrases which could have been used to describe similar video content. Therefore, when considering the results of this study it is important to note that these findings relate to content tagged in a certain way, and content using alternative, but similar, keywords may yield different findings. Future work investigating online video disclosures could also investigate whether viewers empathise with the contributor through text-based communication. Studies could analyse the comments associated to similar videos to further understand the reciprocal side of this asynchronous communication.

The analysis of personal video diary content (Chapter 4) revealed some strong indications as to the differences in disclosures between sexes (section 4.2.11), however the limited female sample size meant few significantly reliable conclusions could be drawn. Furthermore, the overall sample size could be larger, which would allow for the further analysis of differences between sexes and

devices. However, it should be noted that recruitment from this population was found to be challenging. Although calls for participation were circulated via University and local LGBT community mailing lists, and posted online in the *LGBT Kent* Facebook group and *Out Nation* forum there was a very low response rate. A contributing factor could be the very personal nature of the content, compounded by the recording aspect and the duration for which participation was required. Engagement with local groups who meet face-to-face could result in a higher recruitment rate, as potential participants would already be familiar with the individual carrying out the research. Coding visual relevance per video has provided a useful top-level overview of the way in which visuals are integrated in point-of-view video diaries alongside verbal disclosures. Nevertheless, as videos can contain more than one code, these findings may not necessarily be fully representative. The battery life of Glass is limited, as such participants were supplied with a portable USB charger which is not ideal as it requires them to be able to carry this around. Due to further technological constraints participants were requested to record up to an hour's worth of video over a 1 to 2-day period, assuming they would have ample reflections during this time frame. Therefore, participants could have felt the need to record for the purpose of the study outside of natural times of reflection. As a result, some diary entries could have been planned rather than created on an ad-hoc basis. Whilst there were indications that some content was thought about prior to filming, there were no suggestions of this being as a result of time constraints. Furthermore, the content recorded could have been affected as participants were aware the videos were being produced for research purposes and would be viewed by a researcher. Consequently, some themes could be more prominent than perhaps they are in day-to-day life and, conversely, others may have been omitted completely. Smartphone recording was more cumbersome and lacked comfort for some participants, in contrast the wearable nature of Glass was more beneficial in this respect however its visual look impacts on self-consciousness when being used in public locations. In addition, negative media

reports surrounding Glass at the time of this study could have influenced participants' perceptions and attitudes towards the device, which in turn could have impacted upon the findings presented.

Unlike data collection via video, interviews are much more controlled. As a result, the insights obtained are often focused around a set of specific areas of interest to the researcher. Semi-structured interviews were adopted (Chapter 5) to minimise this effect and allow for the deeper exploration of ideas as they became apparent from participant responses. However, it is acknowledged that there may be further concepts that remain unexplored, as the line of questioning and exploration may not have touched upon them significantly enough for participants to speak about them.

Future work investigating offline video amongst this population should carefully consider recruitment, which is particularly challenging from this group. Some interesting findings within this thesis pertaining to differences between recording device and sex could only be alluded to. Carrying out a similar study with a larger sample size could help to identify stronger differences between devices as well as between sexes. It would also allow for the findings to be more representative of the community. In addition, completing the same study with a sample of heterosexuals would allow for the comparison between sexual orientations which could potentially reveal interesting similarities and differences. Moreover, allowing the diaries to be completed over a longer period of time could yield stronger, and more varied, results. This study coded the video data directly, so that the verbal content could be closely analysed alongside the visual aspect. Transcribing the verbal content would allow for linguistic analysis to be conducted which could provide further insights into the gay and lesbian community, or any community being investigated.

The future design of wearable technologies could create new ways to disclose information and yield results that both extend and contrast the findings presented. For example, a device which is more discrete than Glass, and extends a socially accepted and recognised object could be met more positively in terms of design and acceptance. The findings of this study suggest that some themes lend themselves more to discussion on Glass. With a device that it more readily accepted being utilised, this divide between wearable and handheld devices could be amplified. Moreover, the level of personal disclosure could increase due to a higher level of disassociation with a device that is less prominent or unfamiliar.

The findings of this study demonstrate the point-of-view style to be more immersive than other video methods. The impact of this form of user generated content on others' attitudes towards non-heterosexuals could be investigated further. Finally, the use of point-of-view video recording as a therapeutic tool warrants further investigation. Cognitive behavioural therapy practitioners who use verbal therapies could find this method of reflection an enhancement to existing practices.

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APPENDIX

APPENDIX A: Ruby script for converting video data from XML to CSV format

This script was used for the study outlined in Chapter 3. It converts the video data returned by the YouTube API version 2.0 from XML to CSV format.

```ruby
require 'rexml/document'
include REXML
dirpath="Files/" # current part
result="result.csv"
#clear old file
f=File.open(result,'w')
Dir.foreach(dirpath){|filename|
#check if the file is an xml file
if(filename.split(".")[1]=="xml")
#begin
doc = Document.new File.new(dirpath+filename)
s1="Title,Author,NumberOfComments,Category,Description,Keywords,DurationSeconds,
Published,VideoId,AverageRating,NumberOfRaters,FavouriteCount,ViewCount,Dislikes,Li
kes"
f.puts s1
   doc.elements.each("feed/entry"){|entry|
       s1=""
       entry.elements.each("title"){|title|
        if(!title.text.nil?)
         temp=""
         temp=title.text.gsub(/\n/," ")
         temp=temp.gsub(/\,/,"_COMMA_")
         s1<<temp+","
        else
         s1<<"NO DATA"+","
```

```ruby
             end}
         entry.elements.each("author/name"){|name|
          if(!name.text.nil?)
           temp=""
           temp=name.text.gsub(/\n/," ")
           temp=temp.gsub(/\,/,"_COMMA_")
           s1<<temp+","
          else
           s1<<"NO DATA"+","
          end}
unless(entry.elements["gd:comments/gd:feedLink"].nil?)
        entry.elements.each("gd:comments/gd:feedLink"){|comments|
 s1<< comments.attributes["countHint"]+","
        }
else
 s1<< "NO DATA"+","
end
unless(entry.elements["media:group/media:category"].nil?)
        entry.elements.each("media:group/media:category"){|category|
 s1<< category.attributes["label"]+","
        }
else
 s1<< "NO DATA"+","
end
entry.elements.each("media:group/media:description"){|description|
    if(!description.text.nil?)
        temp=""
        temp=description.text.gsub(/\n/," ")
        temp=temp.gsub(/\,/,"_COMMA_")
        s1<<temp+","
       else
        s1<<"NO DATA"+","
       end}
```

```ruby
       entry.elements.each("media:group/media:keywords"){|keywords|
       if(!keywords.text.nil?)
         temp=""
         temp=keywords.text.gsub(/\n/," ")
         temp=temp.gsub(/\,/,"_COMMA_")
         s1<<temp+","
        else
         s1<<"NO DATA"+","
        end}
unless(entry.elements["media:group/yt:duration"].nil?)
       entry.elements.each("media:group/yt:duration"){|duration|
 s1<< duration.attributes["seconds"]+","
       }
else
 s1<< "NO DATA"+","
end
       entry.elements.each("media:group/yt:uploaded"){|published|
        if(!published.text.nil?)
         temp=""
         temp=published.text.gsub(/\n/," ")
         temp=temp.gsub(/\,/,"_COMMA_")
         s1<<temp+","
        else
         s1<<"NO DATA"+","
        end}
       entry.elements.each("media:group/yt:videoid"){|video|
       if(!video.text.nil?)
         temp=""
         temp=video.text.gsub(/\n/," ")
         temp=temp.gsub(/\,/,"_COMMA_")
         s1<<temp+","
        else
         s1<<"NO DATA"+","
```

```
        end}
unless(entry.elements["gd:rating"].nil?)
        entry.elements.each("gd:rating"){| rating |
  s1<< rating.attributes["average"]+","
        }
else
  s1<< "NO DATA"+","
end
unless(entry.elements["gd:rating"].nil?)
        entry.elements.each("gd:rating"){| raters |
  s1<< raters.attributes["numRaters"]+","
        }
else
  s1<< "NO DATA"+","
end
unless(entry.elements["yt:statistics"].nil?)
        entry.elements.each("yt:statistics"){| favcount |
  s1<< favcount.attributes["favoriteCount"]+","
        }
else
  s1<< "NO DATA"+","
end
unless(entry.elements["yt:statistics"].nil?)
        entry.elements.each("yt:statistics"){| viewcount |
  s1<< viewcount.attributes["viewCount"]+","
        }
else
  s1<< "NO DATA"+","
end
unless(entry.elements["yt:rating"].nil?)
        entry.elements.each("yt:rating"){| dislikes |
  s1<< dislikes.attributes["numDislikes"]+","
        }
```

```ruby
    else
      s1<< "NO DATA"+","
    end
    unless(entry.elements["yt:rating"].nil?)
            entry.elements.each("yt:rating"){| likes |
      s1<< likes.attributes["numLikes"]+","
            }
    else
      s1<< "NO DATA"+","
    end
            f.puts s1
            }
 #    rescue
            #raise "Something is wrong with"+filename
     #  end
    end}
f.close
```

APPENDIX B: Ruby script for converting user data from XML to CSV format

This script was used for the study outlined in Chapter 3. It converts the user data returned by the YouTube API version 2.0 from XML to CSV format.

```ruby
require 'rexml/document'
include REXML
dirpath="Files/" # current part
result="result.csv"
#clear old file
f=File.open(result,'w')
Dir.foreach(dirpath){|filename|
  #check if the file is an xml file
  if(filename.split(".")[1]=="xml" or filename.split(".")[1]=="txt")
    #begin
      puts filename
      doc = Document.new File.new(dirpath+filename)
      doc.elements.each("entry"){|entry|
          s1=""
          entry.elements.each("title"){|title|
            if(!title.text.nil?)
             temp=""
             temp=title.text.gsub(/\n/," ")
             temp=temp.gsub(/\,/,"_COMMA_")
             s1<<temp+","
            else
             s1<<"NO DATA"+","
            end
          }
  unless(entry.elements["summary"].nil?)
          entry.elements.each("summary"){|summary|
           if(!summary.text.nil?)
             temp=""
```

```ruby
       temp=summary.text.gsub(/\n/,"_NEWLINE_")
       temp=temp.gsub(/\,/,"_COMMA_")
       s1<<temp+","
      else
      s1<<"NO DATA"+","
      end
     }
   else
    s1<< "NO DATA"+","
   end
   unless(entry.elements["author/name"].nil?)
       entry.elements.each("author/name"){|author|
        if(!author.text.nil?)
         temp=""
         temp=author.text.gsub(/\n/," ")
         temp=temp.gsub(/\,/,"_COMMA_")
         s1<<temp+","
        else
         s1<<"NO DATA"+","
        end
       }
   else
    s1<< "NO DATA"+","
   end
   unless(entry.elements["author/yt:userId"].nil?)
       entry.elements.each("author/yt:userId"){|user|
        if(!user.text.nil?)
         temp=""
         temp=user.text.gsub(/\n/," ")
         temp=temp.gsub(/\,/,"_COMMA_")
         s1<<temp+","
        else
         s1<<"NO DATA"+","
```

```ruby
      end
    }
else
  s1<< "NO DATA"+","
end
unless(entry.elements["yt:aboutMe"].nil?)
      entry.elements.each("yt:aboutMe"){|about|
        if(!about.text.nil?)
          temp=""
          temp=about.text.gsub(/\n/,"_NEWLINE_")
          temp=temp.gsub(/\,/,"_COMMA_")
          s1<<temp+","
        else
          s1<<"NO DATA"+","
        end
      }
else
  s1<< "NO DATA"+","
end
unless(entry.elements["yt:age"].nil?)
      entry.elements.each("yt:age"){|age|
        if(!age.text.nil?)
          temp=""
          temp=age.text.gsub(/\n/," ")
          temp=temp.gsub(/\,/,"_COMMA_")
          s1<<temp+","
        else
          s1<<"NO DATA"+","
        end
      }
else
  s1<< "NO DATA"+","
end
```

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```ruby
unless(entry.elements["yt:firstName"].nil?)
      entry.elements.each("yt:firstName"){|firstName|
       if(!firstName.text.nil?)
        temp=""
        temp=firstName.text.gsub(/\n/," ")
        temp=temp.gsub(/\,/,"_COMMA_")
        s1<<temp+","
       else
        s1<<"NO DATA"+","
       end
      }
else
 s1<< "NO DATA"+","
end
unless(entry.elements["yt:lastName"].nil?)
      entry.elements.each("yt:lastName"){|lastName|
       if(!lastName.text.nil?)
        temp=""
        temp=lastName.text.gsub(/\n/," ")
        temp=temp.gsub(/\,/,"_COMMA_")
        s1<<temp+","
       else
        s1<<"NO DATA"+","
       end
      }
else
 s1<< "NO DATA"+","
end
unless(entry.elements["yt:gender"].nil?)
      entry.elements.each("yt:gender"){|gender|
       if(!gender.text.nil?)
        temp=""
        temp=gender.text.gsub(/\n/," ")
```

```ruby
            temp=temp.gsub(/\,/,"_COMMA_")
            s1<<temp+","
          else
            s1<<"NO DATA"+","
          end
        }
else
  s1<< "NO DATA"+","
end
unless(entry.elements["yt:hometown"].nil?)
        entry.elements.each("yt:hometown"){|hometown|
          if(!hometown.text.nil?)
            temp=""
            temp=hometown.text.gsub(/\n/," ")
            temp=temp.gsub(/\,/,"_COMMA_")
            s1<<temp+","
          else
            s1<<"NO DATA"+","
          end
        }
else
  s1<< "NO DATA"+","
end
unless(entry.elements["yt:location"].nil?)
        entry.elements.each("yt:location"){|location|
          if(!location.text.nil?)
            temp=""
            temp=location.text.gsub(/\n/," ")
            temp=temp.gsub(/\,/,"_COMMA_")
            s1<<temp+","
          else
            s1<<"NO DATA"+","
          end
```

```ruby
                }
else
 s1<< "NO DATA"+","
end
unless(entry.elements["yt:occupation"].nil?)
        entry.elements.each("yt:occupation"){|occupation|
         if(!occupation.text.nil?)
          temp=""
          temp=occupation.text.gsub(/\n/," ")
          temp=temp.gsub(/\,/,"_COMMA_")
          s1<<temp+","
         else
          s1<<"NO DATA"+","
         end
        }
else
 s1<< "NO DATA"+","
end
unless(entry.elements["yt:music"].nil?)
        entry.elements.each("yt:music"){|music|
         if(!music.text.nil?)
          temp=""
          temp=music.text.gsub(/\n/," ")
          temp=temp.gsub(/\,/,"_COMMA_")
          s1<<temp+","
         else
          s1<<"NO DATA"+","
         end
        }
else
 s1<< "NO DATA"+","
end
unless(entry.elements["yt:movies"].nil?)
```

```ruby
       entry.elements.each("yt:movies"){|movies|
        if(!movies.text.nil?)
         temp=""
         temp=movies.text.gsub(/\n/," ")
         temp=temp.gsub(/\,/,"_COMMA_")
         s1<<temp+","
        else
         s1<<"NO DATA"+","
        end
       }
else
 s1<< "NO DATA"+","
end
unless(entry.elements["yt:books"].nil?)
       entry.elements.each("yt:books"){|books|
        if(!books.text.nil?)
         temp=""
         temp=books.text.gsub(/\n/," ")
         temp=temp.gsub(/\,/,"_COMMA_")
         s1<<temp+","
        else
         s1<<"NO DATA"+","
        end
       }
else
 s1<< "NO DATA"+","
end
unless(entry.elements["yt:school"].nil?)
       entry.elements.each("yt:school"){|school|
        if(!school.text.nil?)
         temp=""
         temp=school.text.gsub(/\n/," ")
         temp=temp.gsub(/\,/,"_COMMA_")
```

```ruby
       s1<<temp+","
      else
      s1<<"NO DATA"+","
      end
     }
else
 s1<< "NO DATA"+","
end
unless(entry.elements["yt:hobbies"].nil?)
       entry.elements.each("yt:hobbies"){|hobbies|
        if(!hobbies.text.nil?)
         temp=""
         temp=hobbies.text.gsub(/\n/," ")
         temp=temp.gsub(/\,/,"_COMMA_")
         s1<<temp+","
        else
        s1<<"NO DATA"+","
        end
       }
else
 s1<< "NO DATA"+","
end
unless(entry.elements["yt:company"].nil?)
       entry.elements.each("yt:company"){|company|
        if(!company.text.nil?)
         temp=""
         temp=company.text.gsub(/\n/," ")
         temp=temp.gsub(/\,/,"_COMMA_")
         s1<<temp+","
        else
        s1<<"NO DATA"+","
        end
       }
```

```ruby
else
 s1<< "NO DATA"+","
end
unless(entry.elements["yt:relationship"].nil?)
        entry.elements.each("yt:relationship"){|relationship|
         if(!relationship.text.nil?)
          temp=""
          temp=relationship.text.gsub(/\n/," ")
          temp=temp.gsub(/\,/,"_COMMA_")
          s1<<temp+","
         else
          s1<<"NO DATA"+","
         end
        }
 else
  s1<< "NO DATA"+","
 end
unless(entry.elements["yt:maxUploadDuration"].nil?)
        entry.elements.each("yt:maxUploadDuration"){|duration|
  s1<< duration.attributes["seconds"]+","
        }
 else
  s1<< "NO DATA"+","
 end
unless(entry.elements["yt:statistics"].nil?)
        entry.elements.each("yt:statistics"){|statistics|
  s1<< statistics.attributes["lastWebAccess"]+","
        }
 else
  s1<< "NO DATA"+","
 end
unless(entry.elements["yt:statistics"].nil?)
        entry.elements.each("yt:statistics"){|statistics|
```

```ruby
      s1<< statistics.attributes["subscriberCount"]+","
        }
  else
    s1<< "NO DATA"+","
  end
  unless(entry.elements["yt:statistics"].nil?)
        entry.elements.each("yt:statistics"){|statistics|
    s1<< statistics.attributes["videoWatchCount"]+","
        }
  else
    s1<< "NO DATA"+","
  end
  unless(entry.elements["yt:statistics"].nil?)
        entry.elements.each("yt:statistics"){|statistics|
    s1<< statistics.attributes["viewCount"]+","
        }
  else
    s1<< "NO DATA"+","
  end
  unless(entry.elements["yt:statistics"].nil?)
        entry.elements.each("yt:statistics"){|statistics|
    s1<< statistics.attributes["totalUploadViews"]+","
        }
  else
    s1<< "NO DATA"+","
  end
        f.puts s1
        }
# rescue
        #raise "Something is wrong with"+filename
# end
end
} f.close
```

APPENDIX C: Participant information sheet

I am a postgraduate research student in the School of Engineering and Digital Arts at the University of Kent. As part of my PhD thesis, I am conducting research under the joint supervision of Dr Chee Siang Ang and Ania Bobrowicz and I am inviting you to participate in my study.

The purpose of the study is to capture reflections and observations of those who identify as either a lesbian or a gay man.

This study involves recording videos about your experiences and observations, as a lesbian or gay man, as you go about your daily business.

The findings from this study will hopefully increase understanding of how those who identify as homosexual use point-of-view video to express themselves, their experiences and opinions. Furthermore, this understanding could help form new design frameworks to aid other people in a similar situation, as they use technology to explore about themselves and their identities. In addition, this research could help to identify potential implications for the disclosure of sensitive subjects via wearable devices within this minority group.

I do not foresee any adverse affects to you from being involved in this research study. Your participation is voluntary and you may withdraw at anytime without reason or penalty. You are free to capture video diaries for whichever topics you feel comfortable in talking about.

All videos obtained in this study will be assigned a unique identification number. Your name and contact details will not be associated with any videos unless you choose to freely disclose this information in the videos yourself. In the future, individuals outside of the current study may view your video contributions for the purpose of future research only. In such a situation these individuals would be required to sign a non-disclosure agreement to help project your privacy.

All videos and interview transcripts will be kept on a secure University server.

Brief

You are required to film a series of short videos over the course of a one to two day period. Each individual video should be at least 10 seconds in duration. In total you should record 1 hours worth of video.

Try not to record videos at home. Record the videos out and about as you go about your everyday routine/business. You are encouraged to film videos on and off University campus. We are interested in your personal observations, experiences and reflections as a gay man or lesbian. Perhaps you see a newspaper headline and it reminds you of something, record it and describe what it reminds you of. Alternatively you may walk past an area where an event took place that you would like to share your experience of.

Remember the videos need to be shot in a point-of-view style. Therefore you should film the object/item/location of interest and narrate over the top. When narrating speak as clearly as possible. Please do not film yourself talking to the camera.

These videos must be your own personal video diaries; your recorded observations, experiences and reflections as a gay man or lesbian should focus on **your own** thoughts, understanding and feelings only.

You are **not** permitted to interview other people and you must not purposefully record others. Additionally, you must not name or comment on others in your videos.

Keep videos focused on you.

Contact

If you have any questions or concerns, please contact Michael Green at *<email address>* or if urgent please call *<phone number>*.

APPENDIX D: Interview questions

Semi-structured interview questions, expanded upon based on participant responses. Before starting participants were reassured of ethical issues such as confidentiality.

1. Would you describe your technological competency as novice, intermediate or advanced?
2. How often do you use a computer/mobile-computing device?
3. How comfortable did you find using the Google Glass/Mobile Phone device for recording video diaries?
4. Can you please tell me three good things about recording on the Google Glass/Mobile Phone device?
   a. And three things that need improving? Why?
5. How did you find recording?
6. Were you approached by the public?
   a. What did they say?
   b. What did you say?
7. How did documenting your thoughts in this way make you feel?
   a. Did it make you feel more or less comfortable in revealing personal information in public?
8. How would you describe your self-awareness whilst filming?
   a. Were you more or less self-aware?
   b. How would you describe the acceptability of the device?
9. Would you consider using Google Glass/Mobile Phone to record video diaries on a daily basis?
   a. Why/why not?
10. What, if anything, did you learn about yourself from taking part in this study?
11. How do you think this device could be used to help those who identify as LGBT reflect on their lives?

Thank interviewee