

**A Social Curse: Exploring Gay, Bisexual, and Men Who Have Sex With Men's Attitudes to HIV Pre-exposure Prophylaxis Usage.**

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## Abstract

Pre-exposure Prophylaxis (PrEP) is a novel drug that prevents HIV-negative individuals from contracting HIV (Human Immunodeficiency Virus). It is primarily used by gay men, bisexual men, and men who have sex with men (gbMSM). However, stigmatised associations between gbMSM, HIV, and PrEP may hinder PrEP uptake. This thesis makes a novel contribution to the literature by using the Social Identity Approach to Health (SIAH; Haslam et al., 2018) as a theoretical lens through which to explore group-based processes potentially underpinning gbMSM attitudes to PrEP, and the possible effects of these processes on gbMSM health.

A mixed-methods design was used. Using semi-structured interviews, Study 1 qualitatively explored gbMSM's ( $N=21$ ) perceptions of PrEP via Theoretically Guided Reflexive Thematic Analysis (Braun & Clarke, 2021). As well as providing rich accounts of the intragroup, intergroup and broader societal processes involved in shaping participants' attitudes to PrEP, Study 1's findings informed the measures used in Study 2. This was a quantitative online survey study which cross-sectionally ( $N=203$ ) and longitudinally ( $N=128$ ) explored gbMSM attitudes to PrEP. Study 2's findings indicated that group processes may help explain gbMSM attitudes to PrEP, in addition to shedding light on the SIAH-related variables that mediate the relationship between gbMSM group identification and wellbeing.

Across these studies, gbMSM reported sexual risk-taking as being normative (i.e., a Social Curse), yet gbMSM identification also predicted positive PrEP attitudes and wellbeing. Findings also indicated that gbMSM often anticipated stigma and discrimination from healthcare professionals, frequently using meta-perceptions to appraise how professionals may perceive gbMSM and PrEP users.

This thesis contributes to theoretical understandings of how group-based processes impact on health, discusses the need for future research which examines barriers to PrEP uptake in more depth, and concludes with practical recommendations aimed at addressing how to strategically harness gbMSM identification to improve attitudes to PrEP.

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# **Chapter One: Psychological and Social Factors Underpinning Human Immunodeficiency Virus (HIV)**

## **1.1: Chapter Overview**

Since its widespread outbreak in the 1980s, Human Immunodeficiency Virus (HIV) has been a significant global public health problem, with 39 million people currently living with HIV (LWHIV) and 40.4 million having died due to it (UNAIDS, 2023). Treatment options were poor when HIV was first discovered, leading to an urgent need to use the medical model to understand its epidemiology. This focus on the medical model means that sociopsychological processes underpinning HIV prevention, transmission, and management have been neglected. This chapter thus explores these issues.

Although HIV can be successfully managed through antiviral treatment, this is financially costly \$326,500 (£268,887 as of October 2023; Schackman et al., 2015) and is often associated with additional sociopsychological barriers and limitations. As antiviral adherence is central to good health in those LWHIV, this chapter will explore how antivirals are used in the management of HIV, and the extent to which patients take them as prescribed. As HIV is largely considered incurable, prevention is advocated as the optimal approach to HIV eradication. This chapter will also briefly consider instances where HIV has been 'cured', in addition to prevention methods, and potential barriers and limitations surrounding HIV prevention methods.

HIV is noted as a burdensome condition and therefore it is necessary to outline the psychological impact of LWHIV. Moreover, HIV is often associated with certain groups of people, and therefore it is important to outline the population selected to be explored in this thesis (i.e., gay men, bisexual men, and men who have sex with men: gbMSM). This chapter shall justify the relevance of HIV to gbMSM, emphasising how gbMSM are often perceived as a primary at-risk population for HIV exposure. This chapter, alongside the subsequent chapter (See Chapter 2), aims

to highlight the relationship between gbMSM and HIV, and argue for the importance of exploring gbMSM attitudes to HIV prevention.

This chapter will then discuss gbMSM perceptions of HIV, including sexual risk-taking and attitudes to preventative measures, prior to discussions of what conclusions can be drawn from commonly adopted approaches to understanding the connections between gbMSM and HIV, such as minority stress. Finally, this chapter will conclude by summarising the importance of psychological and social factors in understanding HIV transmission, prevention, and management.

## **1.2: HIV: Transmission, Symptomatology, and Testing**

HIV is an umbrella term comprising two viruses, HIV-1 and HIV-2. Both belong to the *Lentivirus* genus (characterised as causing chronic and/or deadly disease infection). For the purpose of this thesis, HIV shall be used as an umbrella term due to the complexities of the biology underpinning individual HIV strains. Although the origins of HIV are unclear, HIV is largely attributed to zoonotic transmission (i.e., from animal to humans), with origins likely tied to Simian Immunodeficiency Virus (Sharp & Hahn, 2011). The epidemiology of HIV infection is complex (and beyond the scope of this thesis). However, the main biological processes shall be outlined to provide an understanding of disease progression in those LWHIV, which in turn will provide an understanding of HIV transmission.

HIV infection weakens immune functioning through replication of HIV viral cells, increasing HIV viral load and reducing the number of white blood cells (i.e., CD4<sup>+</sup> T lymphocytes), which coordinate the immune system's response to infection (Bour et al., 1995). Untreated HIV infection consists of three stages: acute initial infection (when infectivity is high), a sustained asymptomatic period (where infectivity is lower, but transmission is possible), and a final late stage where viral load simultaneously increases as numbers of CD4<sup>+</sup> T cells dramatically decrease (Hernandez-Vargas & Middleton, 2013; Hollingsworth et al., 2008). Eventually, CD4<sup>+</sup> T cells become depleted to the extent that the immune system is unable to combat opportunistic illness, thus

leading to the fatal diagnosis of Acquired Immunodeficiency Syndrome (AIDS). As this thesis is concerned with the prevention of HIV, it is helpful to further consider how early HIV symptomatology and viral incubation may influence transmission during the acute phase of HIV infection (i.e., when transmission is most likely).

Acute infection of HIV refers to a brief initial period between HIV acquisition and *seroconversion* (production of HIV antibodies). Individuals often experience a period of illness, characterised by influenza-like symptoms, rash, depression, meningitis, and weight loss, although others remain asymptomatic (Hernandez-Vargas & Middleton, 2013; Hollingsworth et al., 2008; Yerly & Hirschel, 2012). As acute infection is associated with high infectivity (e.g., Hernandez-Vargas & Middleton, 2013), asymptomatic presentation is particularly concerning. If an individual is unaware that they are LWHIV, this could result in unknowingly transmitting HIV to others due to being unaware of their HIV status.

HIV transmission occurs through sharing bodily fluids such as blood or semen (Pilcher et al., 2007). Sex workers, needle-based drug users, and some ethnic minority groups are associated with elevated HIV transmission (Hernandez-Vargas & Middleton, 2013; Hoenigl et al., 2016; Yerly & Hirschel, 2012). However, depictions of HIV transmission are prominently associated with gay men (Halkitis, 2010; Catungal et al., 2021; Worth & Rawstorne, 2005).

Associations between HIV and gay men are deeply rooted in socio-political depictions of HIV and are often exacerbated by stigma (see Chapter 2). However, anal sex (particularly receptive anal sex) is associated with an increased likelihood of HIV transmission in comparison to vaginal and oral sex (e.g., Petrova et al., 2013). Thus, as many gay men engage in anal sex, it would be anticipated that they would be at greater risk of HIV infection. However, it should be noted that, in the UK at least, populations at risk from HIV are changing, with more diagnoses being made within heterosexual populations than within non-heterosexual populations in 2020 (Terrence Higgins Trust, 2022). Thus, while acknowledging a biological susceptibility to HIV in gay men is somewhat

helpful in highlighting their potential vulnerability to the infection, labelling groups in such a simplistic manner can lead to stigma and complacency amongst groups who consider themselves 'safe' from infection. Thus, focussing on the biological susceptibility of 'at-risk' groups provides a superficial understanding of HIV transmission, and can result in the sociopsychological processes that may predict health behaviours (e.g., HIV testing) being neglected.

### **1.2.1: HIV Testing**

As HIV infection can be asymptomatic, or mistaken for other illness (e.g., influenza), an individual cannot know their HIV status without testing. Although UK medical professionals are calling for testing to be available to all (Baggaley et al., 2017), regular testing is currently targeted to groups who are considered more likely to be at-risk, such as sexually active gay men. Three types of HIV tests are commonly used: antibody tests (finger-prick tests that detect HIV antibodies), antibody and antigens tests (finger-prick or lab tests that can detect HIV antibodies and antigens), and nucleic acid tests (blood tests that measure the amount of HIV virus). Although no HIV test can detect HIV infection immediately, nucleic acid tests can be used 10-14 days after potential infection (e.g., Zhao et al., 2019), whereas rapid-testing finger-prick tests for antibodies/antigens can be used 90 days after potential infection, with antibody and antigen testing usually providing faster test results (i.e., within 30 minutes; Greenwald et al., 2006; Moodley et al., 2008). Moreover, finger-prick tests can be conducted at home, removing the need to attend sexual health clinics.

Although HIV testing is readily available, people report barriers to getting tested. For example, fear of HIV diagnosis may lead to disengagement with testing (Beksinska et al., 2020; Pinkerton & Abramson, 1997). Moreover, a European meta-analysis (Deblonde et al., 2010) reported barriers on multiple levels, including patient-centred barriers (e.g., fear of HIV or fear of sexual health disclosure) and public health barriers (e.g., inability to access testing services (especially for populations such as African migrants), and problems communicating sexual health



needs with healthcare professionals and General Practitioners (GPs)). For instance, if patients asked GPs for HIV testing, GPs often perceived patients as overly anxious regarding their HIV status, with many refusing to conduct HIV tests because they perceived this to be the responsibility of sexual health services. Although sexual health services are a more appropriate form of contact for HIV testing, GPs may offer a sense of familiarity and trustworthiness to patients, due to them being perceived as a member of an individual's community (e.g., Gidman et al., 2012). This could encourage patients to seek HIV testing from them and could significantly affect patients' trust in their GP if/when they refuse to conduct HIV testing. Such public health barriers could thus significantly limit access to HIV testing, which in turn could lead to an increase in transmission.

### **1.3: Managing HIV and Preventing HIV Transmission**

HIV is largely considered incurable. Although case studies such as the 'Berlin Patient' have suggested people LWHIV may be 'cured', such patients present complex comorbid health conditions (e.g., LWHIV and having blood cancer), and have undergone experimental stem-cell treatments (Yukl et al., 2013). Yukl et al. (2013) note that testing errors, such as false-positive results, make it difficult to definitively state an individual LWHIV is ever 'cured'. The hope of curing HIV is often fuelled by the media, with those who have been cured being presented as medical anomalies and thus not representative of current medical capabilities (Rennie et al., 2015). As a HIV cure is not considered in reach, it is necessary to focus on HIV prevention and maintaining good health in those LWHIV.

Modern medical advancements have led to the successful management of HIV, enabling those LWHIV to live 'normal' lives with typical life expectancies. Moreover, as medication can also inhibit HIV transmission (e.g., Zolopa, 2010), public health professionals have adopted an approach of prevention rather than cure, with a goal of no new HIV diagnoses by 2030. However, this goal is argued to be overly ambitious due to barriers to the uptake of HIV medication (Frank et

al., 2019). This further reinforces the importance of understanding the sociopsychological processes underpinning attitudes and behaviours to HIV, to ensure barriers can be minimised.

Medications have played a fundamental role in HIV management. The first antiviral medicine used in the treatment of HIV was Azidothymidine (AZT), which was granted authorisation for use in 1987. Although initially developed as a chemotherapy drug, it was reported to suppress HIV infection, but was initially scarcely available with little knowledge about how to safely use it (Lauritsen, 1990). As HIV and use of AZT were both poorly understood at the time, manufacturers suggested doses 20-1000 times higher than necessary for viral inhibition, leading to toxicity and severe side effects (Chiu & Duesberg, 1994). This created distrust in AZT in at-risk populations such as gay men (Lauritsen, 1990; Stoto et al., 1999).

Modern antiretroviral therapy (ART) is generally regarded as better tolerated, more effective, and recommended for all patients who are LWHIV (Yoshimura, 2017). Unlike AZT administration during the HIV/AIDS Crisis in the 1980s, knowledge of HIV has led to development of antivirals able to successfully manage HIV infection, with most patients LWHIV taking combined antivirals which successfully inhibit the virus (Zolopa, 2010). Moreover, patients are no longer limited to one treatment option, and if patients experience an adverse reaction to a specific medication, there are other options available. If a patient LWHIV responds to ART, this suppresses the virus whilst protecting and raising CD4<sup>+</sup> T cells, often to a point where their viral load (i.e., the amount of detectable HIV virus) becomes undetectable. Once someone LWHIV becomes undetectable, they are also unable to transmit the virus to others, known as 'U=U' (undetectable equals untransmissible), meaning they are unable to pass the virus on (Eisinger et al., 2019; Tan et al., 2020). However, HIV is still associated with many comorbid health concerns, such as an increased risk of lung cancer (Kaplan-Lewis et al., 2017). This highlights that although HIV itself is a manageable condition, those LWHIV are more likely to experience additional health concerns, further complicating their healthcare requirements.

### **1.3.1: Medication Adherence**

Although HIV medication is highly effective, even short-term lapses in adherence can result in viral spikes, leading to the virus no longer being suppressed, and can have long-term negative effects such as increased HIV-related mortality (Robbins et al., 2014). Robbins et al. (2014) conducted a review on ART adherence interventions and noted that although biologically driven approaches, such as using breathalyser technology to detect when participants had taken ART medication, may have been used by participants during the study, participants reported that they were unlikely to use them in real life. Moreover, they reported psychological interventions often displayed mixed results, although some success was demonstrated through peer-run counselling to reinforce ART uptake. It is possible that due to counselling being peer-led, participants would be more likely to resonate with positive health messaging (i.e., to take ART regularly), as they perceived themselves as belonging to the same group as the person promoting the message. This indicates that group memberships are likely to be important when attempting to understand how to positively promote HIV-related medications.

Lived experiences of those LWHIV are often complex, and regularly influence ART adherence. Indeed, psychosocial variables such as depression and sexual compulsivity have been observed to undermine efforts to increase ART adherence, with approaches to HIV management being service provider-focussed, as opposed to meeting the needs of patients LWHIV, such as gay men (Halkitis et al., 2014). Although ART may be successful in the management of HIV, healthcare professionals must be mindful that psychological side effects (e.g., sleep disturbances) and physical side effects (e.g., gastrointestinal issues) are likely to negatively predict adherence (Gay et al., 2011). Thus, adherence is likely to be influenced by biological factors (e.g., side effects) in addition to wellbeing outcomes and behavioural processes (e.g., depression and sexual compulsivity).

Arguably, a lack of understanding surrounding adherence is indicative of a larger problem. HIV is a burdensome illness to both those LWHIV and healthcare services. Although attitudes and management of HIV have improved, it is still recognised as one of the leading burdensome diseases when accounting for disability adjusted life years, which is a measure of years of life lost due to premature death combined with years lost due to disability (Ortblad et al., 2013). Although this chapter has explored the human and financial costs of HIV, it is also necessary to consider the sociopsychological costs.

#### **1.4: The Sociopsychological Burden of Living With HIV**

Attitudes towards HIV are often complex, and thus qualitative research allows for in-depth exploration of patient-focussed experiences. Pierret (2007) conducted a qualitative review into experiences of those LWHIV during 1990-2000. HIV was associated with secrecy due to fear of how others may react upon hearing the diagnosis, in addition to fearing the rejection that they expected once the diagnosis was made public. Participants discussed paradoxical accounts that were often underpinned by secrecy, shame, and fear. For example, although they would limit their sexual partners (thus limiting HIV transmission), they still reported making a conscious choice not to use condoms for self-orientated reasons (e.g., preference or sensation seeking). Although LWHIV is often documented to be associated with health consequences for the individual, concealing HIV status could result in transmission to others. Therefore, HIV concealment may have physical costs for others (i.e., HIV transmission), in addition to social costs (i.e., due to the reported burdensome nature of LWHIV). The burden of LWHIV has also led researchers to explore the quality of life in those LWHIV.

Research has explored the associations between LWHIV and poor quality of life, with those LWHIV commonly experiencing depression (Earnshaw et al., 2015, 2020; Hutton et al., 2004; Rooney et al., 2019), and anxiety (Popping et al., 2021). Rooney and colleagues (2019) reported that 58% of those LWHIV scored elevated depression ratings, as opposed to 33% of those who

were HIV negative. Although Swedish research suggests that many people LWHIV have high quality of life ratings, quality of life is generally lower for those LWHIV compared to the rest of the population, while homelessness, negative self-concerns, and sexual dissatisfaction are higher (Zeluf-Andersson et al., 2019). Similar findings have been obtained in the Netherlands and the U.K. (Popping et al., 2021), where although quality of life was reported as being relatively high, those LWHIV often reported experiencing anxiety and depression, suggesting that it is necessary to further unpack the psychological and social factors influencing health and wellbeing in those LWHIV. Finally, when examining why those LWHIV may report lower quality of life, it was reported that many other psychological and social factors (such as sexual dissatisfaction) could be to blame. This suggests that quality of life and psychological wellbeing outcomes (e.g., depression) have complex relationships with sociopsychological predictor variables.

This chapter has so far outlined that although LWHIV can be successfully managed, it is often associated with comorbid health conditions, poorer quality of life (than those who are HIV-), and is often perceived as a burdensome condition, leading to a focus on HIV prevention. With this in mind, the efficacy and public perceptions of HIV prevention methods will now be considered.

## **1.5: Prevention of HIV: Condoms, Post-Exposure Prophylaxis (PEP) and Pre-Exposure Prophylaxis (PrEP)**

### ***1.5.1: Condoms to Prevent HIV Transmission***

For many years, one of the only effective methods for HIV protection was condom use during sex (e.g., Anderson et al., 1999; Beksinska et al., 2020; Fishbein et al., 1993; Pinkerton & Abramson, 1997). However, effectiveness depends on highly consistent use (Hearst and Chen, 2004), leading to global concerns about their efficacy (Beksinska et al., 2020). Moreover, those with high HIV risk often do not use condoms or engage with condom promotion interventions (Hearst & Chen, 2004), with even 'aggressive' promotion of condom use not being associated with significant decreases in HIV transmission (Potts et al., 2008). Thus, condoms alone are sub-optimal

for HIV protection, but do help protect against other sexually transmitted infections (STIs). This has an indirect impact on HIV infection, as STI infections often increase HIV transmissibility (Cohen, 1998). Nonetheless, since the advent of HIV prevention medication, it is generally argued that condoms alongside medical prophylaxis is a more effective way to stop HIV transmission than condoms alone.

### **1.5.2: Post-exposure Prophylaxis (PEP)**

There are two types of HIV prevention medication. The first is known as Post-Exposure Prophylaxis (PEP), which can be taken within 72 hours of potential HIV exposure to reduce the risk of transmission (Benn et al., 2014). Although PEP can help decrease the likelihood of HIV transmission, side effects and the need for timely action limit PEP's efficacy as a HIV prevention method (Siedner et al., 2018). Furthermore, as initial HIV infection may be asymptomatic, individuals may be unaware that they have been exposed to HIV, and thus not seek PEP. This shortcoming is addressed by the second type of HIV prevention drug: Pre-exposure Prophylaxis (PrEP), which is often taken daily, regardless of whether the person believes they have been exposed to HIV.

### **1.5.3: Pre-exposure Prophylaxis (PrEP)**

PrEP is a relatively new drug, commonly supplied as an oral tablet. It combines two HIV antiviral drugs (emtricitabine and tenofovir disoproxil fumarate) and is effective at reducing HIV transmission, although efficacy is strongly associated with adherence (Baeten et al., 2013). PrEP can either be taken daily or on an event-based schedule (i.e., before and after sex), although event-based usage is largely done by cisgendered-men (i.e., men who are born males) rather than women or transgender men, due to metabolic and hormonal differences influencing PrEP uptake (Mehrotra et al., 2019).

Statistics on PrEP's efficacy should be interpreted with caution, largely due to variance in adherence levels. However, PrEP has been reported to reduce HIV transmission by 86% (Grover et

al., 2015). Although PrEP is a relatively novel drug, short-term safety profiles over three years indicate PrEP causes no more severe side-effects than a placebo, and thus can be considered relatively safe (Desai et al., 2017).

However, PrEP has caused extensive discussion on risk compensation (i.e., PrEP usage protects against HIV, and thus could be argued to encourage riskier sexual behaviour, such as condomless sex, in turn increasing STI transmission). It is reported that healthcare professionals may perceive risk compensation as a reason not to prescribe PrEP, even though judgement of PrEP-use is counterintuitive to helping patients make informed decisions surrounding their sexual health (Calabrese et al., 2017). Additionally, those who tested for HIV less frequently (i.e., had less engagement with sexual health services) were more likely to display interest in PrEP use (Groves et al., 2015). If participants already had limited access to sexual health services and were faced with judgement when trying to obtain PrEP, this could further problematise healthcare access, leading to increased service disengagement. As healthcare professionals are vital in the administration of PrEP, it is necessary that they refrain from judgement, and instead focus on promoting PrEP uptake.

Understanding PrEP-related risk could be better understood by consulting at-risk populations (e.g., gay men) and coproducing guidelines based on how group members feel PrEP could be used without creating additional risk (Castro et al., 2019). At-risk populations have also been suggested to influence attitudes to PrEP. For instance, when exploring PrEP use among black women in the USA, it was concluded that peer support from fellow black women could provide culturally sensitive advocacy for PrEP (Pyra et al., 2022). This indicates that group membership may play a key role in shaping attitudes to PrEP.

### **1.6: Thesis Population: gbMSM**

This chapter has illustrated how HIV prevention may be inhibited through psychosocial variables that influence attitudes to preventative medication such as PrEP. As patterns of PrEP use

(as well as the barriers faced when attempting to access or use it) often vary by population, it is necessary to outline this thesis's population, prior to elaborating on relevant psychological and social predictors influencing this population's attitudes to HIV and its prevention.

The term 'gay men, bisexual men, and men who have sex with men' (gbMSM) will be used to best encapsulate the population this thesis aims to represent. Although the relationship between HIV and gay men was established at the height of the HIV/AIDS Crisis (see Chapter 2), modern perspectives of sexuality are more diverse (e.g., bisexual, pansexual), including some people opting not to label their sexuality at all (Callis, 2014; Galupo et al., 2018). This increased diversity of sexuality has thus led to the term gbMSM, which includes all male-identifying individuals who engage in same-sex sexual activity. Using this terminology is a deliberate attempt to minimise the erasure of groups that are at increased risk of HIV due to engaging in anal sex but that do not fall under the traditional category of 'gay men'. This includes bisexual men, as well as men who identify as straight/heterosexual, yet still engage in same-sex sexual activity (often referred to as 'men who have sex with men, or MSM'). Sexual health terminology is often misused in academia, with the term 'men who have sex with men' (MSM) often being used to refer to all male same-sex sexualities (e.g., Daramilas & Jaspal, 2016; Dubov et al., 2018; Jaspal & Daramilas, 2016; Lorenc et al., 2011; Quinn, Dickson-Gomez, et al., 2019). Although MSM are an important group to consider due to them sharing relevant characteristics with other gbMSM (i.e., sexual health risks), it is difficult to ascertain (and is beyond the scope of this thesis to explore) whether MSM is an identity itself, or whether it refers to straight/heterosexual-identifying men who simply happen to engage in same-sex sexual activity. This is very different to gay men and bisexual men, who have far more defined sexual identities, thus highlighting why it is important to differentiate between MSM and other men who engage in same-sex sexual activity.

Another reason gbMSM were selected as the population of investigation in this thesis is that they are at elevated risk for HIV exposure, and they were eligible to participate in the PrEP drugs trials taking place in the UK when Study 1 was conducted. Although PrEP is now available to



all, severe structural barriers exist, leading to gbMSM still being given priority access, even though other groups are increasingly being encouraged to take PrEP (e.g., women, especially sex workers). However, encouraging non-gbMSM to take PrEP is a very new endeavour within the ever-changing landscape of PrEP promotion and uptake. As PrEP has been suggested to be embedded into gbMSM culture (Heredia & Goldklank, 2021), it is challenging to predict how PrEP will be perceived within broader contexts. As such, this thesis's focus is exclusively on gbMSM.

Transgender men were not recruited for this research because transgender people's experiences of PrEP often differ from cisgender people's experiences, due to the way PrEP functions being largely based on one's sex assigned at birth. There is also psychological evidence to support the conclusion that PrEP experiences are likely to differ between transgender men and gbMSM, such as work showing that transgender men's perceptions of PrEP may be negative due to them perceiving PrEP as being associated with gay men (Ghanooni et al., 2022). It would therefore be anticipated that transgender men's experiences of PrEP usage would differ significantly from gbMSM's experiences, and thus this population was not considered in the context of this thesis.

Thus, this thesis shall use the acronym 'gbMSM' to describe all cisgender males who engage in same-sex activity. It is intended that this will allow for diverse representation of a diverse population, whilst also allowing for continuity between the present research and previous research in this area. Now that the population of this thesis has been defined, the remainder of this chapter will emphasise the importance of psychological and social processes underpinning gbMSM's perceptions of HIV-related issues.

## **1.7: GbMSM Perceptions of HIV-related Issues**

### ***1.7.1: GbMSM's Perceptions of HIV Testing***

Although gbMSM are identified as high-risk, they often do not engage in regular HIV testing due to various barriers (Clifton et al., 2016), such as being unwilling to disclose sexual

health details to sexual healthcare workers (Pachankis et al., 2015). This indicates that relationships between gbMSM and healthcare professionals may influence attitudes to testing, emphasising the importance of healthcare professionals being non-judgemental (Kia et al., 2022; Koester et al., 2013; Pachankis et al., 2015). Moreover, it is argued that it is necessary for healthcare professionals to be perceived as an extension of the gbMSM community (Lorenc et al., 2011). This again highlights the relevance of group memberships for people's attitudes towards HIV prevention/testing: perceiving sexual healthcare workers as ingroup members has the potential to increase service-users' feelings of trust, which increases the likelihood of them accessing services (see Chapter 3). Although testing can inform gbMSM of their HIV status, testing alone does not prevent HIV exposure. It is thus necessary to also consider gbMSM's perceptions of prevention methods, such as condoms and PrEP.

### **1.7.2: gbMSM's Perceptions of HIV Prevention Methods**

**1.7.2.1: Condoms.** The relationship between the intention to use condoms and actual condom use is mediated by having a plan regarding the use of condoms during sexual encounters (Teng & Mak, 2011). Although this could be interpreted as suggesting that encouraging gbMSM to plan to use condoms might be helpful, other research on gbMSM's perceptions of condoms calls their long-term efficacy into question (Golub, 2018). For instance, Klassen et al. (2019) reported that gbMSM had less favourable views of condoms than heterosexuals, and many gbMSM felt that condoms could result in sex feeling boring or unpleasurable. Moreover, it was suggested that gbMSM may opt not to use condoms due to peer pressure.

**1.7.2.2: PrEP.** While PrEP has been suggested to increase sexual satisfaction due to increasing confidence and reducing anxiety of HIV transmission during sex (Hascher et al., 2023), some gbMSM associate PrEP with lack of condom usage, and thus deem PrEP use as being irresponsible (Philpot et al., 2020). Nonetheless, PrEP could be a useful option for those engaging in drug/alcohol use, which may lead to them not using condoms. Indeed, it has been suggested

that gbMSM who use substances (particularly during sexual activity) are especially likely to want to use PrEP (Wang et al., 2020). When exploring the motivators behind gbMSM taking PrEP, it was reported that PrEP use is likely to be driven by individuals' own perceptions of their sexual risk taking, with those who perceived their behaviour as being especially risky being more likely to take PrEP (Kesler et al., 2016).

Social barriers have also been reported to impede PrEP access. These include being a member of a social group for whom same-sex sexual activity is counter-normative, such as various religious and cultural groups (Schnarrs et al., 2018). More specifically, for gbMSM who belong to such groups, the perceived need to conceal their sexual orientation due to the stigma associated with it (see Chapter 2) may lead to them feeling unable to request and use PrEP. This may also lead to access issues related to one's geographical location, as different regions of the world have differing attitudes towards gbMSM (Schnarrs et al., 2018).

Perceptions of gbMSM can also hinder PrEP access. For instance, if healthcare professionals stereotype all gbMSM as behaving in sexually risky ways, they may attempt to pressurise their gbMSM patients into taking PrEP, rather than listening to their patients' opinions (Hascher et al., 2021). This could lead to gbMSM feeling judged by healthcare professionals, making them less likely to access health services (and PrEP) in future. Moreover, since it has been suggested that to increase PrEP uptake, PrEP-taking needs to be reframed as a responsible act (rather than as an act which enables risky sexual behaviour), the stereotyping of gbMSM patients as behaving in sexually risky ways could reduce PrEP uptake (Golub, 2018). The next chapter will explore these key issues of gbMSM stereotyping and stigma in more depth.

When exploring perceptions and experiences of the gbMSM population, it is impossible to ignore the importance of their minority status. To this end, the final sections of this chapter will explore the well-established minority stress model in the context of gbMSM, as well as how minority stress may affect gbMSM's experiences of and attitudes towards HIV and HIV prevention.

### **1.7.3: gbMSM, HIV, and Minority Stress**

It has been well-established that sexual minorities experience poorer health outcomes: social factors such as prejudice, rejection, discrimination, and concealment are often observed as minority stress processes (Flentje et al., 2020), which refers to the chronic (and health-damaging) stress experienced by members of minority groups (Meyer, 2003). Flentje and colleagues (2020) also reported sexual minorities (such as gbMSM) were likely to experience poorer physical health and immune functioning. In turn, it was concluded that minority stress was associated with earlier HIV death, poorer clinical outcomes, increased HIV-related symptoms, and worse medication side effects (Flentje et al., 2020). Thus, when considering how HIV impacts health, it is vital that psychological variables are considered.

GbMSM minority stress can have a significant impact on health/wellbeing. Indeed, indirect mediation analyses have indicated harassment and discrimination to be associated with greater depression, which in turn positively predicted suicidal ideation (Michaels et al., 2016). Michaels and colleagues (2016) concluded that intervention is necessary at a societal level (i.e., to address discrimination against gbMSM, which may in turn reduce depression and suicidal ideation in gbMSM).

In Taiwan (which is culturally conservative), minority stress has been linked to perceptions of sexual orientation (i.e., internalised homophobia), with researchers suggesting that intimate gbMSM relationships could help mitigate the harmful effects of minority stress and reduce depression (Liang & Huang, 2022). It is possible that due to homosexuality being illegal in Taiwan, barriers to HIV testing and experienced discrimination become collectively shared by gbMSM, leading to minority stress feeling more manageable. This would indicate that in some instances, relationships between gbMSM may help reduce negative wellbeing outcomes, which will be discussed in greater detail later in this thesis (See Chapter 3).

Minority stress research often emphasises the influence of stigma on gbMSM health behaviours (e.g., Begeny & Huo, 2017; Burns et al., 2012; Hascher et al., 2021; Hatzenbuehler, 2009; Liang & Huang, 2022; Logie et al., 2012; Pachankis et al., 2015). Indeed, even though contemporary attitudes to gbMSM have comparably improved, research still emphasises the enduring nature of stigmatisation of both gbMSM and HIV. Stigma is still frequently reported, which highlights the importance of stigma processes for understanding gbMSM and HIV, and in turn, how gbMSM-orientated HIV prevention methods such as PrEP may also be stigmatised. Therefore, it is necessary for this thesis to explore stigma in greater depth to signify the importance of understanding stigma-based processes in this context.

### **1.8: Chapter Summary**

Although there are health-related consequences to HIV, medical advancements have led to LWHIV being a manageable (albeit still stigmatised) condition. PrEP is highly effective at preventing HIV infection, yet there are often barriers to PrEP uptake and usage (Hascher et al., 2021; Quinn, Bowleg, et al., 2019; Wang et al., 2020). Moreover, psychological processes underpin perceptions of HIV risk, often highlighting issues such as concealment, lack of education, and judgement (e.g., Kesler et al., 2016; Klassen et al., 2019). This thesis argues that concealment and fear surrounding HIV diagnosis within its population of interest (gbMSM) is likely rooted in HIV stigma, which will be explored in Chapter 2. Moreover, studies have established the importance of social norms and community when addressing gbMSM and their perceptions of HIV (e.g., Lorenc et al., 2011; Michaels et al., 2016). Examination of stigma processes from an identity perspective could be helpful to better understand the relationship between gbMSM and service providers. Moreover, although medical strategies have been provided (i.e., PrEP), and ambitious targets are being set (i.e., no more HIV diagnoses by 2030), psychological barriers to engagement are present. If positive attitudes to PrEP are not fostered then PrEP usage will remain sub-optimal, and thus may not have the desired impact on HIV transmission.

Finally, perceptions of healthcare providers have been established as predictors of service usage and uptake of HIV testing. GbMSM perceptions of service providers (e.g., fear of judgement) could hinder access to PrEP. Thus, to optimise PrEP usage and decrease HIV transmission, it is also important to consider how stereotyping and perceptions of being stereotyped (i.e., meta-stereotypes and meta-perceptions) by service providers may influence gbMSM attitudes to PrEP. This key topic will be explored in the next chapter.

## **Chapter 2: The Influence of Stigma, Stereotypes, and Meta-stereotypes on Gay Men, Bisexual Men, and Men Who Have Sex with Men, and on Attitudes Towards HIV/AIDS**

### **2.1: Chapter Overview**

The previous chapter emphasised the sociopsychological processes underpinning HIV transmission and prevention. Moreover, it aimed to explore how sociopsychological barriers may prevent uptake of PrEP. It also highlighted that as a minoritised group, gbMSM often experience stigmatised interactions. This chapter provides an in-depth exploration of stigma, highlighting how stigma processes underpin HIV-related experiences, and attitudes of minority populations such as gbMSM to HIV.

GbMSM have experienced significant stigma in the UK, with homosexuality not being decriminalised until 1967, 1981, and 1982 in England/Wales, Scotland, and Northern Ireland respectively. Although societal attitudes have generally eased, gbMSM still experience stigmatised interactions and judgement (e.g., Brener et al., 2022; Lutete et al., 2022; Lyons et al., 2022; Stojanovski et al., 2022). Moreover, these judgements can often become *stereotypes*, with assumptions that gbMSM are associated with health conditions such as HIV/AIDS (Kowalewski, 1988), promiscuity (Watts & O'Byrne, 2019), and risky behaviour (Cole et al., 1996). This chapter argues that these stereotypical views of gbMSM are frequently inaccurate, and ultimately harmful for their wellbeing. Moreover, this chapter shall highlight how stereotyping, stigma, and associated processes impact gbMSM as a group, rather than as individuals. This chapter also aims to explore how the socio-historical and political landscape of LGBTQ+ culture has influenced the stigma, stereotypes, and discrimination experienced by gbMSM, and the role that such processes play in affecting gbMSM's health.

This chapter is comprised of two broad sections: one exploring the processes of stigma and stereotyping in general terms (albeit predominantly in the context of gbMSM), and one applying this information to shed light on the specific topic of attitudes towards HIV/AIDS. The

chapter will begin with a discussion of the original Stigma Theory (Goffman, 1963), as well as more recent developments which make the theory more applicable to how gbMSM are perceived in modern contexts. Next, the ways in which gbMSM have faced stigmatised beliefs both historically and currently will be addressed. The link between anticipated stigma and meta-stereotypes (i.e., stereotypes that ingroup members believe to be held about their group by the outgroup) will then be explored, with implications of this relationship for ingroup wellbeing also being discussed.

The second broad section of the chapter will open by exploring the socio-political underpinnings of HIV/AIDS, briefly considering the impact of the 1980s HIV/AIDS Crisis and how this has influenced current attitudes towards HIV/AIDS. Stigma surrounding HIV/AIDS will then be discussed, with a central argument that, for gbMSM, HIV/AIDS has led to stigma becoming comorbid (i.e., stigma against the gbMSM group is combined with and compounded by stigma against HIV/AIDS, which is commonly associated with gbMSM e.g., Kowalewski, 1988). The chapter will then build upon perspectives of PrEP outlined in Chapter 1 to include an exploration of research into attitudes towards PrEP, as well as the social repercussions of possessing a 'PrEP user' identity in addition to one's already stigmatised gbMSM identity. Finally, this chapter will emphasise the importance of group-related processes when examining gbMSM, HIV, and PrEP. This will begin to solidify a central argument of this thesis that a group-based approach is both beneficial and necessary to explore how social processes such as stigma influence gbMSM and attitudes to PrEP.

## **2.2: Defining Stigma: Stigma Theory**

Stigma has been documented over thousands of years, with researchers considering stigma processes from multiple theoretical perspectives. However, since this thesis is concerned with health-related attitudes of gbMSM, which, as discussed in Chapter 1, are heavily socially driven, a social identity approach to stigma will be taken in this chapter. This will primarily be achieved through examining Goffman's Stigma Theory (Goffman, 1963), which focuses on the idea



that stigma is bound up with the concept of 'spoiled identity'. Although Stigma Theory has been deemed most appropriate for this thesis, the theory was developed during a time when same-sex sexualities were illegal and pathologized in North America, the UK, and many other countries. Thus, Stigma Theory shall be explored through a critical lens to include discussion of recent research that helps to conceptualise how it may apply to groups such as gbMSM in a modern setting.

### **2.2.1: Stigma Theory**

In his book "Stigma: Notes on the Management of Spoiled Identity", Goffman (1963) aimed to conceptualise the dynamic nature of stigma processes by adopting an identity perspective. According to Goffman, stigma could be defined as an attribute or "blemish" that is "deeply discrediting". He stated individuals belong to one of three groups: The "own" (individuals who share a stigma), the "normal" (those without stigma) and an extension of the normal known as the "wise" ("normal" individuals with vicarious experience of stigma). Goffman suggested that possessing the attribute alone was insufficient to result in stigma. Instead, he emphasised the relationship between the attribute and normative expectations upheld in society (i.e., that the attribute needs to be perceived as counter-normative by the society within which the individual lives). Goffman highlighted how most people would likely experience some stigma during their lifetimes, thus alluding to permeability between the three outlined groups (e.g., stigmatised groups could be perceived as 'normal' if the attribute was no longer perceived as being counter to normative expectations). This has implications for gbMSM (and shall be explored later in this thesis) as if it is possible to foster perceptions of gbMSM as normative, it would be anticipated that stigma would decrease.

Goffman also noted that all individuals were "discreditable", and thus had concealed attributes of themselves that could become stigmatised. Those who experienced stigma were defined as "discredited" with stigma attributed to *physical deformity* (e.g., physical disability),

*psychopathology* (e.g., addiction or homosexuality), or *tribal stigma* (based around a group, such as race). Those who experienced stigma were suggested to possess a 'spoiled identity'. Goffman elaborated on this by discussing how social categories dictate what an individual ought to be like, and failure to meet normative expectations is perceived as shameful. Moreover, holding a 'spoiled identity' would likely cause social limitations, with 'normal' individuals anticipated to treat stigmatised individuals poorly (e.g., belittling or ignoring the stigmatised person). Goffman concluded that stigmatised individuals would internalise stigmatised interactions and start to believe negative perceptions about themselves. The concept of a spoiled identity has been explored in prisoners diagnosed with hepatitis-C, who perceived themselves as being punished by guards more frequently than prisoners without hepatitis-C, and who were often shunned by fellow inmates (Rance et al., 2020). This suggests that stigma spoiling an individual's identity is likely to result in difficult social interactions.

Goffman anticipated that those who carried stigma would have greater difficulty in social settings with those who were without stigma, due to them fearing negative social interactions. This implies that those who share a stigma may find social interactions between each other easier than when speaking to someone who does not share their stigma. However, Goffman explained that stigmatised individuals would still be likely to avoid each other, possibly because intragroup interaction could emphasise and exacerbate the stigma. This has been explored in modern contexts of mental health, illustrating that those who share a mental health condition may avoid each other (Markowitz & Engelman, 2017). It is anticipated that stigmatised individuals would experience exclusion, which could result in social isolation. However, the possibility that a 'spoiled identity' (such as LWHIV) may lead to isolation from both those differing to the individual (i.e., the outgroup) and those who share a stigma (i.e., the ingroup) presents a strong argument for adopting a group-based approach when exploring minority groups (i.e., gbMSM) and stigmatised illness (i.e., HIV), as explored in this thesis.

Goffman's approach to stigma emphasised the importance of the relationship between the attribute and the context of that attribute (e.g., location). Stigma Theory provides a dynamic explanation of stigma that helps to illustrate how it is a social process whereby the 'blemish' of an individual's character negatively impacts their social exchanges, both with outgroups (e.g., discrimination) and with ingroup members who share the stigma (e.g., avoidance). Thus, Stigma Theory successfully highlights the importance of group-based processes in stigmatised groups (e.g., gbMSM and people LWHIV, thus making it an especially relevant topic for this thesis).

Due to Stigma Theory emphasising that stigma occurs due to an attribute failing to adhere to normative standards, it is argued to be both relevant and appropriate to contemporary gbMSM experiences. gbMSM have been victim to harmful health-related stereotypes, such as propaganda describing HIV/AIDS as a 'gay disease' (as will be explored later in this chapter). Moreover, even though same-sex relations are no longer considered illegal in the western world (e.g., UK), gbMSM still experience differing levels of stigma, such as defamatory slurs, a stereotypical association with promiscuity, and physical assault (e.g., Hackl & Newman, 2015; Harry, 1982; Pawson & Grov, 2018). Historical and current reports of gbMSM facing stigma indicate a lack of societal acceptance of gbMSM. Thus, due to ongoing prejudice and discrimination experienced by gbMSM, Goffman's Stigma Theory is applicable in a modern context.

However, Stigma Theory is argued to neglect the importance of group-based processes, even though stigmatised interactions lead to creation of an 'us' versus 'them' mentality (Link & Phelan, 2001). Moreover, Link and Phelan (2001) suggest that stigma also exists through connecting undesirable traits or conditions with labels (e.g., someone with schizophrenia is labelled as a schizophrenic), often resulting in a loss of societal status for the person and highlighting that labels can group individuals under a shared term. Although this group of people may not occupy the same physical space, they are likely to share the same *social world*, and thus have similar stigmatised interactions due to their possession of undesirable characteristics, such as illness or minoritised status. Although grouping may lead to a loss of individuality, and their

stigmatised group status becoming central to their identity, labelling alone may not be sufficient for individuals to perceive themselves as a meaningful group (see Chapter 3).

Research has highlighted that group-based processes such as norms may underpin HIV stigma. For example, in Zimbabwe, women are expected to uphold different normative values (e.g., chastity until marriage) from men (e.g., multiple sexual partners), resulting in women reporting greater sexual health-related stigma than men (O'Brien & Broom, 2014). Moreover, women reported HIV to be associated with prostitution in Zimbabwe, and thus feared that accessing sexual health services (e.g., HIV testing), would lead to them being perceived as sex workers (a highly stigmatised group). Such research indicates the importance of group processes by exploring how societal norms may result in differing levels of social acceptability, and thus may dictate whether (and for whom) sexual behaviour is stigmatised.

It is also argued that modern sexuality-based stigma may produce more nuanced interactions than Goffman suggested. For instance, rather than accepting their stigmatised status, members of the modern-day queer community often challenge hostile reactions to their sexuality (Orne, 2013). Although Goffman noted that stigma is dictated by social acceptability, Stigma Theory fails to adequately consider how the social acceptability of groups such as gbMSM may fluctuate depending on how groups are perceived.

This thesis has evidenced the influence of intragroup (e.g., gbMSM norms) and intergroup (e.g., intergroup hostility between gbMSM and healthcare professionals) processes on gbMSM health, thus indicating that Goffman's approach must be aligned with a group-based approach. This would allow for greater emphasis on how the socio-political landscape may influence attitudes to minoritised groups such as gbMSM, to consider how gbMSM perceive stigma as a group (rather than how they perceive it as individuals), and to explore how stigmatised interactions may influence intergroup reactions between gbMSM and other groups (e.g., heterosexuals). Although stigma and discrimination experienced by gbMSM has lessened

somewhat, gbMSM stigma is still well documented. One way stigma has been fostered in the gbMSM community is through harmful associations and stereotypes.

### **2.3: GbMSM Stigma: Harmful Associations and Stereotypes**

Historically, many homosexual-identifying individuals experienced extensive stigma and discrimination. This led to research exploring both homosexual and heterosexual attitudes to gbMSM. For instance, effeminate gay men were more likely to report experiencing physical assault due to their sexuality (i.e., 'gaybashing'), and were unlikely to seek help from police due to police often treating homosexuals poorly (Harry, 1982). Although societal acceptance of homosexuality was poor, individual experiences often differed. For instance, due to heterosexuals anticipating that homosexuals would act effeminately, 'masculine presenting' homosexuals reported less stigma (Sedgwick, 1991) because it concealed their sexuality. Indeed, 'masculine presentation' led to greater tolerance due to their behaviour being inconsistent with the *stereotype* (e.g., Haslam et al., 1997; Spencer et al., 2016; Tajfel & Tajfel, 1963) of gay men as effeminate (e.g., Sedgwick, 1991), indicating that (lack of) tolerance and acceptance of gay men (and gbMSM more generally) is likely to be influenced by stereotypical views about gay men, as opposed to being solely based on their sexuality.

Homosexuality has historically been associated with many harmful traits, such as paedophilia (Clowes & Sonnier, 2005). Although these are baseless claims embedded in homophobic attitudes, they serve to further 'spoil' the identity of gbMSM, by conflating it with a criminal identity (i.e., paedophiles). Moreover, although associations between homosexuality and paedophilia have lessened, homosexuality can still be perceived by some as violating heteronormative values.

An enduring negative stereotype is that gbMSM are and are likely to have STIs (Hackl & Newman, 2015; Rice et al., 2002). These associations further 'spoil' the gbMSM identity, and present gbMSM as a group who engage in risky behaviours. However, gbMSM could be argued to

stigmatise each other, using labels such as 'slut' to describe fellow gbMSM (McDavitt & Mutchler, 2014), indicating that the impact of the association between gbMSM and promiscuity is complex and conditional. It is possible that defamatory statements between gbMSM concerning their sex lives may be deemed normative, and thus accepted, whereas non-gbMSM describing gbMSM as promiscuous may be perceived as an attack on gbMSM. This is the *intergroup sensitivity effect*, whereby criticism from the ingroup is perceived as more constructive and legitimate than criticism from an outgroup (Hornsey et al., 2002). This suggests that gbMSM may perceive stigmatising language differently depending on the group the individual belongs to. It also indicates that normative processes may influence whether potentially stigmatising language is perceived as a threat, further supporting the importance of exploring group-based processes to understand gbMSM behaviour.

Alternatively, it is possible that gbMSM condemn outgroup members' negative judgement of behaviour that they perceive in positive terms due to their sex-positive stance (i.e., the perception that all consensual sexual behaviour should be legitimised and celebrated). Fahs (2014) notes that there is a need to move beyond 'freedom to' approaches to sex-positivity (e.g., being free to engage in sexual self-expression), and to instead focus on 'freedom from' approaches, where decisions to adopt a sex-positive approach should be free from external judgement by others.

These observations have strong implications for this thesis, as although gbMSMs may perceive themselves as promiscuous, this perception is an ingroup judgement, and therefore does not consider how outgroup perceptions of gbMSM promiscuity could lead to stigma. Moreover, gbMSM may benefit from a similar 'freedom from' approach. For example, when comparing gbMSM with heterosexuals, although gbMSM had more sexual partners than heterosexuals, gbMSM also reported higher condom usage (Glick et al., 2012). Therefore, although gbMSM often report more liberal attitudes to sex than heterosexuals (i.e., a relevant outgroup), increased

condom uptake may mean that gbMSM are better protected against STIs than heterosexuals, indicating that perceptions of gbMSM as frequently having STIs may be misguided.

Although many stereotypes (e.g., gbMSM are paedophiles) are largely dismissed in modern times, they still have the potential to cause social harm (e.g., stigma). This chapter has highlighted how perspectives of outgroups may influence stigma processes. Thus, before discussing one of the most harmful stereotypes gbMSMs experience (i.e., that they are particularly likely to have HIV/AIDS), it is necessary to explore how gbMSM expect to be perceived by outgroups, and how this, in turn, influences their interactions with outgroups.

### ***2.3.1: Meta-Stereotypes and Meta-Perceptions***

GbMSM have historically faced stigmatised interactions, although the extent of (UK-based) gbMSM stigma has lessened in recent years. Although stigmatised attitudes, particularly surrounding attitudes to sex, are still present, it is important to differentiate between experienced and anticipated stigma. So far, this chapter has explored the impact of experienced stigma (i.e., stigma that is enacted and experienced), but stigma can also be anticipated (i.e., expected to occur, regardless of whether it actually does). Although experienced stigma is often anticipated to result in poorer mental health outcomes than anticipated stigma (Pachankis et al., 2018), anticipated stigma could result in the development of negative meta-stereotypes and meta-perceptions (i.e., gbMSM's beliefs about how they are stereotyped and perceived by outgroup members; Gómez, 2002).

It is documented that anticipated stigma can be detrimental to health and wellbeing (e.g., Chaudoir & Quinn, 2016; Hinton et al., 2019; Quinn & Chaudoir, 2009). Indeed, it has been established that anticipated stigma, as opposed to enacted stigma, can be associated with poorer health outcomes, such as depression (Chaudoir & Quinn, 2016). As discussed in Chapter 1, barriers such as distrust of service workers can lead to service disengagement. Even barriers that are merely anticipated (i.e., perceiving clinic workers as untrustworthy prior to visiting clinics), can

pose significant challenges to wellbeing. This is also evident in the context of help-seeking, where group members may choose not to seek needed help in order to avoid supporting the outgroup's apparent belief that the ingroup is dependent/incapable (Wakefield et al., 2013). Thus, due to gbMSM being aware of stereotyped associations as promiscuous, the desire to challenge this stereotype may lead to unwillingness to access sexual health services, fearing that help-seeking may reaffirm negative associations with promiscuity. This suggests anticipated stigma and meta-perceptions could be harmful to gbMSM's wellbeing, both directly through the act of being stereotyped, and indirectly via the social costs they are willing to endure in order to challenge such perceptions.

The implications are even more serious when considering how meta-stereotypes and meta-perceptions may impact gbMSM LWHIV. For instance, Gordijn and Boven (2009) found that participants who reported lower levels of perceived personal control experienced more concerns about being stereotyped by others, which in turn predicted more loneliness.

However, it has also been suggested that positive meta-perceptions (i.e., a person LWHIV believing that they are valued by others) could promote wellbeing (Matera et al., 2021). This illustrates that meta-stereotypes have the potential to be both beneficial and detrimental to wellbeing. Moreover, it suggests that the role of meta-stereotypes can be complex, particularly surrounding highly stigmatised conditions like HIV. Although some research has examined how PrEP may result in anticipated stigma (Biello et al., 2017), research at present gives little consideration to how PrEP stigma may affect gbMSM meta-stereotypes, and how in turn this may influence relationships with sexual health workers. This thesis will address this gap (see Chapter 8).

This chapter has sought to establish the importance of perceiving stigma as a dynamic relationship between an attribute and how that attribute is perceived in society, in addition to emphasising the extent of gbMSM stereotypes, meta-stereotypes, and meta-perceptions, and



how they may influence wellbeing. Moreover, associations and stereotypes can potentially influence gbMSM as a group, rather than just gbMSM as individuals. This chapter shall now explore the harmful association that exists between gbMSM and HIV/AIDS, so as to provide further detail regarding gbMSM stigma.

## **2.4: HIV/AIDS Stigma**

LWHIV was highly stigmatised in the years following the virus' discovery (Cullen, 2003). Although attitudes towards those LWHIV have improved, it remains a stigmatised condition, both among gbMSM and the wider population. This second section of the chapter begins by discussing the nature of HIV/AIDS stigma and exploring how this differs now compared to during the HIV/AIDS Crisis. The connection between HIV/AIDS and gbMSM will also be explored, highlighting how being associated with HIV/AIDS may result in negative consequences for gbMSM.

### **2.4.1: *The HIV/AIDS Crisis***

The first widely reported cases of the illness now known as AIDS involved gay men in Los Angeles in 1981, leading to panic and confusion (a period throughout the 1980s and 1990s now known as the HIV/AIDS Crisis), especially since little was known about how the disease was transmitted. HIV/AIDS was heavily associated with gay men at this time, with HIV being perceived as a 'gay plague' (Cullen, 2003). Moreover, some conservative groups used this to suggest that gay men deserved to be inflicted with HIV (Goh, 2008). Government support during the HIV/AIDS crisis was limited, with health messaging promoting fear and reasserting that HIV is a deadly disease associated with gay men (Burgess, 2017). This led to the gbMSM community being shunned by wider society, causing social isolation particularly for those LWHIV.

However, during this time, members of the wider LGBTQ+ community demonstrated support for gbMSM. This included attempts to increase societal awareness of both gay rights and HIV facts and myths through movements such as ACT UP (AIDS Coalition to Unleash Power; Ruiz-Junco, 2013). Moreover, lesbians offered support to gbMSM and assisted with healthcare and

political activism (Glassman, 1995). Thus, although the wider LGBTQ+ community were facing significant stigma, they acted collectively to reduce social harms associated with HIV/AIDS. Additionally, the ACT UP movement created protests to ensure that HIV/AIDS became a widely known issue beyond the LGBTQ+ community, and thus played a fundamental role in advancing awareness.

One aspect of the HIV/AIDS Crisis that led to greater stigma was misinformation. Uncertainties surrounding how HIV could be transmitted led to perceptions that it may be caught through sharing toilets, or through touch: myths that are still believed today (Ouzouni & Nakakis, 2012). The wider population was afraid of contracting HIV, and this misinformation led to many people avoiding contact with all gbMSM, regardless of their HIV status. This illustrates an assumption that all gbMSM either had or could have HIV, and therefore should be avoided. Moreover, it indicates that although gbMSM who contracted HIV were commonly discriminated against, the association between gbMSM and HIV was so strong that gbMSM who did not have HIV were also discriminated against. Although allies such as Princess Diana attempted to challenge the myth that HIV could be transmitted through touch (Shome, 2001), fear of HIV still led to stigmatised interactions with gbMSM. Even access to greater knowledge regarding the transmission of HIV did not weaken the association between gbMSM and HIV (an association that is still highly present at the time of writing this thesis).

#### ***2.4.2: Changing Perceptions of HIV and AIDS***

Due to initial awareness of HIV epidemiology being poor during the HIV/AIDS Crisis, HIV was often unknowingly transmitted via sex. Moreover, a lack of understanding led to a lack of treatment. As treatment options were poor (see Chapter 1), many who contracted HIV progressed onto having AIDS, and thus died. HIV and AIDS were heavily stigmatised, with individuals lying how friends had died (i.e., in a car accident rather than from AIDS) to ensure they were not associated with the virus (Cook, 2017).

This stigma is still present in modern times and has been reported to limit minoritised populations from accessing testing services (McKeown et al., 2012), suggesting that HIV testing could be perceived to stigmatise an individual. This is problematic as it suggests that stigma may interfere with regular testing in at-risk populations, which in turn could lead to individuals unknowingly LWHIV and potentially infecting others.

Anticipated stigma has also been evidenced in terms of how age affects attitudes of people who are diagnosed with HIV. It has been highlighted that older people are unlikely to disclose their HIV status, while younger people are more likely to disclose, but are likely to fear societal repercussions, such as losing their job (Shome, 2001). This could be because older participants based their decision to conceal their HIV identity on previously experienced stigma (e.g., during the HIV/AIDS Crisis), whereas younger adults were more likely to anticipate that their HIV identity would be stigmatised, but not to the extent that they would conceal their diagnosis.

HIV stigma is also present among gbMSM, with reports of a clear division between those who are HIV negative, and those who are LWHIV. For instance, Courtenay-Quirk et al. (2006) reported that the rejection associated with an HIV diagnosis was perceived to be greater than living with the illness itself. Participants also reported feeling judged by members of the wider LGBTQI+ community. Moreover, those LWHIV often showed negative reactions to others LWHIV due to them resenting how they were treated, thus mirroring their negative treatment in their own behaviour. As gbMSM are already minoritised, it is possible that HIV-negative gbMSM may avoid gbMSM LWHIV to weaken associations between gbMSM and HIV, thus elevating their group's position in society. However, division could be anticipated to further weaken the gbMSM community, dividing gbMSM into smaller minoritised groups based on members' HIV status.

HIV stigma has been explored through sexual health testing and relationships with medical professionals. Although stigma may play a role in people's (lack of) willingness to visit sexual health clinics and engage in related behaviours (e.g., HIV testing; O'Byrne & Watts, 2014), the

exact cause and processes underpinning this relationship between stigma and behaviour are disputed. For example, it has been argued that the relationship between gbMSM and sexual health workers is the source of stigmatised interactions in a sexual health context (Schwartz & Grimm, 2019). However, it is also suggested that gbMSM's fears not only relate to discussing HIV and sexual health status with health professionals, but to discussing the topic of sexuality in general (Schwartz & Grimm, 2019).

It has been argued that healthcare staff interactions may need to be addressed in order to combat gbMSM HIV-related stigma (Nyblade et al., 2009). Nyblade et al. (2009) suggested that stigmatised interactions may occur due to healthcare workers being unaware of what might be stigmatising to gbMSM, meaning healthcare workers need to reflect on interactions to gain a deeper understanding of how their own actions (e.g., how they speak to patients) may influence gbMSM. They also highlighted the persistence of misconceptions surrounding the tactile transmission of HIV. Healthcare workers should be aware that HIV cannot be transmitted through touch, and need to have a greater understanding regarding why gbMSM may feel a lack of casual contact (e.g., not shaking hands) could be perceived as stigmatising. Finally, it was concluded that HIV stigma could be reduced if healthcare workers did not perceive STIs as the outcome of immoral behaviour. These findings/recommendations suggest that healthcare workers are in urgent need of education in order to avoid being perceived by gbMSM as a stigmatising barrier to seeking important resources such as HIV testing.

#### ***2.4.3: Effects of HIV Stigma on GbMSM's Wellbeing and Medication Adherence***

Although HIV stigma has reduced since the 1980s/90s, the stigma of HIV and its negative association with gbMSM is still evident. Recent research has shown that people living with HIV who experience internalised stigma are more likely to experience daytime sleep dysfunction, and that this relationship is mediated by increased feelings of loneliness and depression (Fekete et al., 2018). Those LWHIV who reported greater internalised HIV stigma were also more likely to

experience depression (Earnshaw et al., 2015). This would suggest that although attitudes to gbMSM and HIV have improved, the stigma and social isolation experienced by those LWHIV can still result in negative health consequences. Relatedly, it has been reported that those LWHIV will sometimes actively seek social isolation in an attempt to avoid stigmatised interactions and to hide their 'spoiled' identity (Judgeo & Moalusi, 2014). This provides further evidence for the applicability of Goffman's Stigma Theory to this population.

As well as the well-established negative health effects of social isolation and loneliness (e.g., Fekete et al., 2018; Gordijn & Boven, 2009; Jaremka et al., 2013; Lin et al., 2022; Wakefield et al., 2020), feeling that one's identity is 'spoiled' could have negative implications for HIV medication adherence, due to the medication being associated with the condition itself. For example, research has concluded HIV stigma as a significant negative predictor of adherence to ART medication (HIV stigma positively predicts HIV-related stress, which in turn negatively predicts ART adherence) (Kalichman et al., 2020).

As highlighted in Chapter 1, novel medical advancements such as PrEP have provided medical tools to help prevent HIV transmission. It is now necessary to consider the relationship between gbMSM, HIV, and PrEP, to explore stigma processes in this specific context.

## **2.5: Prevention of HIV: PrEP and Stigma**

### ***2.5.1: PrEP Stigma Outside the gbMSM Community***

Before discussing the relationship between PrEP and stigma, it is important to note that PrEP is a novel intervention. Thus, attitudes towards PrEP are moving at a fast pace, due to factors such as increased availability. This is likely to influence factors such as perceived social acceptability, which this chapter has observed as being a key variable involved in stigma processes.

Nonetheless, there are many reports of people feeling stigmatised due to using PrEP (Biello et al., 2017; Franks et al., 2018; Hascher et al., 2021; Pawson & Grov, 2018; Puppo et al.,

2020; Quinn et al., 2019; Schwartz & Grimm, 2019). It has been suggested that PrEP stigma could be so great that gbMSM may feel unable to take PrEP at all (Jaspal & Daramilas, 2016), which clearly has implications for HIV transmission. However, as explored in this chapter, stigma is a broad term, and thus it is necessary to elaborate on the specific stigma processes that may be experienced by those who take (or wish to take) PrEP. Doing this will allow for a clearer understanding of psychological barriers that may prevent PrEP usage.

PrEP users may be stigmatised due to PrEP being associated with sexual risk-taking (e.g., condomless sex) and promiscuity (Hascher et al., 2023; Pawson & Grov, 2018; Reyniers et al., 2021; Castro et al., 2019; Thomann et al., 2018). Thus, even though PrEP prevents HIV, PrEP use is often tied to risk-taking. This is further problematised if gbMSM perceive PrEP-taking as further reinforcing negative group stereotypes of gbMSM as being promiscuous.

The link between PrEP use and promiscuity has, at least in part, been created and fuelled by the media, who often portray PrEP users as sex addicts who mix PrEP with other drugs (Card et al., 2019). Although media presentations of PrEP use and PrEP users can be stigmatising and potentially harmful, PrEP users have been observed to reclaim discriminatory language presented by media sources (Reyniers et al., 2021). If gbMSM themselves reclaim judgemental language by describing themselves in such terms (e.g., 'Truvada Whore', with Truvada being the brand-name of PrEP in the USA), this may reduce the extent to which such language is perceived as discriminatory (e.g., Treré, 2015). Moreover, as discussed earlier, it would be anticipated that discriminatory language used within the ingroup might be perceived as inoffensive, whereas discriminatory language from outgroups (e.g., the media) is more likely to be observed as a threat to gbMSM identity. Again, this would indicate that to better understand gbMSM attitudes to PrEP, a group-based approach is necessary.

### ***2.5.2: PrEP Stigma Within the gbMSM Community***

Researchers have also considered the topic of PrEP stigma from an *ingroup* perspective (i.e., gbMSM stigmatising other gbMSM PrEP users). It has been suggested that gbMSM have formed ingroup norms whereby PrEP use may be less likely to be stigmatised if it is used with a condom (Puppo et al., 2020). Although guidance on PrEP (e.g., BHIVA, 2020) recommends condom use in addition to PrEP (due to PrEP only protecting against HIV, not other STIs), it is important to note that, from a public health perspective, using PrEP on its own is still a highly effective way to prevent HIV. The fact that a person who is solely taking PrEP might feel stigmatised is thus problematic, as it could result in them deciding to stop taking PrEP altogether, thus potentially increasing their risk of contracting HIV.

One reason why ingroup stigmatisation has been suggested to occur is due to gbMSM non-PrEP users perceiving PrEP as facilitating risk-taking behaviour, which has been compared to how women using birth control may be perceived as promiscuous by non-birth control using women (Pawson & Grov, 2018). This perception of PrEP is problematic, as not only does it discriminate against women engaging in health positive behaviours (i.e., using birth control), it also suggests that PrEP use is reckless, as opposed to acknowledging that PrEP can be a helpful health-positive tool that effectively prevents HIV transmission.

Even though PrEP is effective at preventing HIV transmission, some gbMSMs argue that PrEP could foster complacent attitudes towards unprotected sex, leading to other STIs (Puppo et al., 2020). Moreover, it has been suggested that PrEP use may not eliminate distrust towards those LWHIV, demonstrating that gbMSM may need greater education surrounding PrEP (Williamson et al., 2019).

It has also been suggested that any attempt to tackle PrEP stigma needs to involve community-based (i.e., gbMSM-based) intervention, so as to help educate gbMSM about risk reduction and to reframe PrEP as a health-promoting tool rather than a symbol of promiscuity and recklessness (Reyniers et al., 2021). Moreover, it has been suggested that advocacy (e.g, positive

framing of PrEP from groups such as PrEP users, sexual health services, and the media) is necessary to improve societal perceptions of PrEP users (both within and outside of the gbMSM community), which in turn is likely to reduce PrEP-related stigma and promote PrEP uptake (Hedrick & Carpentier, 2021). However, increasing PrEP awareness and positive societal attitudes towards PrEP can be challenging. For example, when examining public responses to a sex-positive PrEP marketing campaign entitled 'PrEP4Love', participants reported feeling uncomfortable with the campaign's images of gbMSM kissing (Keene et al., 2021). Keene et al. (2021) reported that these images were mainly criticised by religious groups, which supports Jaspal et al.'s (2019) analysis highlighting that religiosity may negatively predict attitudes to gbMSM, and thus, in turn, may negatively predict attitudes to PrEP. Thus, it is possible that for religious group members, discomfort arose from campaign imagery (i.e., men kissing) violating their ingroup norms (i.e., homosexuality as sinful). However, PrEP4Love was also criticised for its use of Black men in its images, with public responses suggesting the campaign was associating Black men with HIV/AIDS. Thus, although the campaign led to more gbMSM accessing PrEP, the evaluation study highlighted stigmatised intergroup interactions (e.g., between religious groups and gbMSM), and illustrated how stereotypes (e.g., Black men have HIV) can cause social harm (Keene et al., 2021). Observing stigmatised relations between gbMSM and other groups further highlights how a group-based approach to PrEP is necessary. This would allow for consideration of how complex social processes are likely to influence gbMSM as a group and could offer helpful contributions when attempting to understand how to mitigate the impact of stigma and improve intergroup relations.

### ***2.5.3: PrEP User As A Social Identity***

It is important to note that gbMSM, who are often associated with a HIV status (positive/negative), also have a PrEP user status (user/non-user). A PrEP-user identity is often associated with heightened gbMSM-related stereotypical views that this chapter has explored (e.g., promiscuity). This has led to researchers adopting an identity-based stance when considering how PrEP-using gbMSM may be perceived by non-PrEP using gbMSM, as well as by the wider



population. For instance, students are more likely to have positive attitudes towards PrEP if they have positive attitudes towards gay men (Jaspal et al., 2019), supporting the claim that PrEP use is societally linked to gbMSM. Moreover, research on the ANRS-PREVENIR programme (a French programme designed to reduce new HIV infections) highlighted the ways in which PrEP is perceived as an identity-based issue (Puppo et al., 2020). Puppo et al. (2020) reported that, in focus groups featuring gbMSM, PrEP users were perceived as a distinct community with their own shared values and beliefs (e.g., positive attitudes to PrEP). The authors concluded that a new PrEP user identity had formed amongst people who take PrEP. However, participants also discussed how PrEP users could be mistaken for people LWHIV, and thus the stigma experienced by individuals LWHIV could be (incorrectly) transferred onto PrEP users.

#### **2.5.4: Measuring Attitudes to PrEP**

Understanding and combatting PrEP stigma is still an ongoing issue, with PrEP stigma being a barrier anticipated by gbMSM patients during sexual health clinic check-ups (Schwartz & Grimm, 2019). This has led to the development of psychometric measures to better understand attitudes to and perceptions of PrEP (Jaspal et al., 2019; Klein & Washington, 2019). Jaspal and colleagues' Attitudes to PrEP Scale (ATPS) has three factors: attitudes to science of PrEP (e.g., "[Target Group] should take PrEP"), perceptions of sexual health risks of PrEP (e.g., "PrEP will encourage [Target Group] to take more risks") and perception of dangerous effects of PrEP (e.g., "PrEP will probably have serious side effects"). The ATPS enabled exploration of the multi-faceted ways in which populations such as gbMSM may perceive PrEP.

#### **2.6: Chapter Summary**

This chapter has highlighted that, historically, gbMSM have been negatively stereotyped, including being labelled as promiscuous, paedophiles, and sexual deviants. Although gbMSM have experienced (and continue to experience) an extensive amount of stigma, modern Western definitions of stigma also consider anticipated stigma (i.e., gbMSM anticipating being stigmatised

due to negative traits that are societally associated with their community). Anticipating stigma may lead to negative meta-stereotypes or meta-perceptions, meaning that gbMSM assume they are stereotyped/perceived negatively by outgroups. These expectations can lead to uncomfortable interactions (Pachankis et al., 2018), and may reduce gbMSM's willingness to access sexual health clinics, thus leading to poorer sexual health outcomes.

The focus of this chapter is how gbMSM have become associated with negative traits and aspects, especially HIV/AIDS. In turn, these associations have transferred over to HIV treatment medications (ART), and, to some extent, preventative measures like PrEP (e.g., Williamson et al., 2019). Navigating a LWHIV identity has been illustrated to be difficult, and often leads to poor mental health outcomes, in addition to social isolation/loneliness (e.g., Fekete et al., 2018). Moreover, in terms of sexual orientation identity, gbMSM who are LWHIV often experience intergroup stigma (from heterosexuals), *and* intragroup stigma (from fellow gbMSM who are HIV-negative, and thus do not share this specific sub-identity with gbMSM who are LWHIV) (e.g., Courtenay-Quirk et al., 2006; Kalichman et al., 2020; Puppo et al., 2020). Similar stigma processes have also been reported by gbMSM who take PrEP (Franks et al., 2018; Hedrick & Carpentier, 2021; Jaspal et al., 2019; Jaspal & Daramilas, 2016; Klein & Washington, 2019; Williamson et al., 2019), who are the focus of this thesis.

These observations highlight the important roles played by intergroup and intragroup processes in influencing attitudes to PrEP, both within and outside the gbMSM community. With this in mind, the research presented in this thesis will be underpinned by the Social Identity Approach (SIA; Tajfel & Turner, 1979), and its health-focused derivative, the Social Identity Approach to Health (SIAH, e.g.; Haslam et al., 2018; Jetten et al., 2017, 2012). The following chapter will provide background information about this approach. Moreover, although sexual minorities are an understudied population in the context of the SIAH, the following chapter will explore research that evidences the appropriateness of the SIAH in exploring gbMSM's health-related perceptions and attitudes, particularly those surrounding PrEP usage.

## **Chapter 3: Theoretical Introduction of the Social Identity Approach.**

### **3.1: Chapter Overview**

The previous chapters have emphasised the need to explore HIV and PrEP from a group-based perspective. The Social Identity Approach (SIA; e.g., Turner & Tajfel, 1979) is a useful lens through which to do this. This chapter will first outline the central tenets of the SIA, before exploring how the SIA has been adapted into the Social Identity Approach to Health (SIAH, e.g.; Haslam et al., 2018; Jetten et al., 2017, 2012) to examine group-based behaviour in a health context. Much of the research discussed in this chapter is unrelated to this thesis's population (i.e., gbMSM); this is due to a lack of literature applying the SIAH to sexual minority groups. However, previous research will be discussed which provides evidence for the ways in which groups (including sexual minority groups) may be beneficial or detrimental to members' health. This chapter will conclude by discussing the novelty and unique contribution of the present research, as well as the rationale for this research. A justification of the mixed methods used to conduct the research will also be provided.

### **3.2: The Social Identity Approach**

Although early social psychological research had begun to consider how individuals may look to others to appraise their own behaviour (e.g., Social Comparison Theory; Festinger, 1954), historical approaches to understanding attitudes and behaviours neglected to explain group processes. This led to the development of the Social Identity Theory (SIT; Tajfel, 1974), and later Self-Categorisation Theory (SCT; Turner et al., 1987), which are often referred to under the umbrella term of the Social Identity Approach (SIA; Hornsey, 2008). This chapter shall first briefly outline the central components of the SIA before discussing how these core principles later informed the Social Identity Approach to Health (SIAH; e.g., Haslam et al., 2018; Jetten et al., 2017, 2012).

The SIA (e.g., Tajfel & Turner, 1979) posits that individuals develop a sense of self, or identity, through the groups to which they belong, as well as how these groups affect their thinking and behaviour. This *social identity* helps them navigate and conceptualise human interactions (Tajfel & Turner, 2004). The SIA attributes the process of forming and maintaining groups to three central tenets. The first tenet, *social categorisation*, involves simplifying and grouping variables in the social world to aid an individual in finding their place in society. Rather than categories acting as labels (e.g., volunteer), categorisations act heuristically to anticipate relevant attributes (e.g., altruistic). Although categories allow an individual to identify those who possess similar values to themselves, categorisation alone is insufficient to produce meaningful groups. For categories and groups to be conceptualised as relevant to the individual, the second central tenet of *social identification* (i.e., a subjective sense of belonging to a group) is also necessary (Tajfel, 1978). As part of the process of group identification, an individual aligns their core values and beliefs with the group. In turn, identification with a group increases an individual's positive social identity by improving their self-concept and self-esteem (Tajfel, 1978). Although it would be anticipated that individuals identify with groups that align with their values, groups have been observed to form in minimalistic arbitrary settings. Indeed, ingroup favouritism can be evoked simply by alluding to the existence of an outgroup (i.e., a group to which an individual does not belong, Tajfel, 1970). The presence of relevant outgroups can lead to *social comparison* (the third central tenet), whereby an individual appraises themselves and their ingroup status by comparing their ingroup to relevant outgroups (Tajfel, 1974).

Although social comparison may result in favourable perceptions of the ingroup, thereby fostering self-esteem, there are instances where comparisons are unfavourable, resulting in one belonging to a low-status group. This may lead to individuals using social mobility to leave the unfavourable group in pursuit of other, more favourable groups. However, group processes are complex, and instances may arise whereby an individual is unable to leave a group due to a lack of group boundary permeability. As identifying with an unfavourable impermeable group could be

detrimental to an individual's sense of self, some individuals may use *social creativity* to change the dimensions upon which the ingroup is compared with the outgroup, thereby improving the perceived status of the ingroup (Tajfel, 1974).

These three central tenets of social categorisation, identification, and social comparison shed light on key aspects of intergroup behaviour and have implications for this thesis. GbMSM are often generalised by collective stereotypical perceptions (see Chapter 2), creating mistrust and leading to concern about how relevant outgroups will perceive gbMSM (i.e., meta-stereotypes). The heuristic nature of categorisation can help explain the processes underpinning gbMSM stereotyping, as beliefs surrounding gbMSM become simplified overgeneralisations. Group-related categories are argued to foster stereotypes and prejudice (e.g., Dovidio et al., 2007) and thus are central to understanding the target population of this thesis.

The SIT is helpful in exploring intergroup dynamics and how this may apply to gbMSM, but it fails to adequately consider the nature of relationships between fellow gbMSM. Moreover, research has suggested that community norms (e.g., substance misuse), may influence gbMSM health (Dentato et al., 2013). Therefore, understanding intragroup behaviour of gbMSM is also beneficial to understanding gbMSM health outcomes. Thus, to outline explanations of intragroup behaviour and gain a richer understanding of the SIA, it is necessary to explore SIT's sister theory, Self-Categorisation Theory (SCT; Turner & Oakes, 1986).

### **3.2.1: Self-Categorisation Theory**

Building upon SIT, SCT further emphasised the role of categorisation, stating that individuals have access to multiple categories, such that they would identify with some categories more strongly than others. Individuals draw upon categories relevant to a specific group identity, resulting in it becoming *salient* or cognitively conspicuous to them (Turner et al., 1987). Although an individual may belong to several groups, it is necessary for group identity to be salient to influence an individual's attitudes, behaviours, and values. Identity salience is a dynamic and fluid

process whereby an individual aligns their core values and beliefs with the category (and thus group identity) that is currently salient. As salience leads to an alignment of the individual to a specific group, this leads to *depersonalisation*, whereby an individual perceives themselves as an interchangeable member of the group (Turner et al., 1987). However, salience is context-dependent, and thus when the currently-salient group changes, so do perceptions of others (e.g., people who were once perceived as ingroup members may now be perceived as outgroup members, and vice versa). Since ingroup members tend to receive better treatment than outgroup members, this has important implications (Turner, 1987).

SCT further expanded on the topic of categorisation to explore how hierarchical structures may exist within ingroups. This can be explained through prototypes ('fuzzy' attributes that increase perceived similarity within the ingroup and increase perceived differences between the ingroup and relevant outgroups; Terry et al., 1999). Prototypes are dynamic and context specific, as the traits that will maximally differentiate the ingroup from the outgroup depend on the specific outgroup to which the ingroup is being compared. Unlike categories, prototypes are graded, meaning that group members exist on a continuum from most to least prototypical in the current context. Those who are highly prototypical would be anticipated to strongly enact group behaviours, and to take on central roles in their ingroup. On the other hand, less prototypical group members may be considered less representative of the group and its values, thus resulting in a lower intragroup status. Prototypes can be strengthened, which in turn encourages group members to uphold the group's ideological positions and behaviours. However, similarly to categorisations, prototypes are based upon assumptions, therefore potentially perpetuating stereotypes and prejudice (Dovidio et al., 2007; Tajfel, 1963). Thus, prototypes could be helpful for explaining why groups such as gbMSM may stereotype themselves and other gbMSM.

Although gbMSM are often considered a low-status minority group, a hierarchical structure is likely to be present within the group itself. This can be explained by the concept of prototypicality (i.e., some gbMSM hold an elevated position in the group). As a result, those with

an elevated position would be anticipated to have greater social influence over other ingroup members (Turner & Oakes, 1986). Additionally, gbMSM who are highly prototypical will think and act in a way that is representative of the group's values and norms. Thus, it could be anticipated that gbMSM with greater prototypicality would use their influence to enforce normative behaviour. Due to the importance of norms to this thesis, this chapter will now explore normative behaviour.

### ***3.2.2: Social Identity Approach and Normative Behaviour***

This chapter has explored how categorisation allows an individual to identify groups that hold similar values to themselves, and from this to form meaningful ingroups. However, it has also been discussed that group membership often results in modifying one's values, beliefs, and behaviours when that specific group identity is salient. An important aspect of the SIA is thus how groups uphold norms (i.e., behaviours, beliefs, and attitudes considered typical and appropriate for group members ; e.g., Terry et al., 1999). Although norms are often expressed as a broad term, different norms function differently.

Broadly, group norms can be split into descriptive norms (what group members do), and injunctive norms (expectations of what group members ought to do) (Cialdini et al., 1991). Both are highly relevant to social identity processes. For instance, Smith and Louis (2008) reported that when using political activism to prime student identity, both students' descriptive and injunctive norms influenced attitudes and behaviour. This suggests that when salient, group identification can influence how group members act (i.e., descriptive norms), and group members' perceptions of how they ought to act (i.e., injunctive norms).

Some researchers have mixed opinions on the behavioural relevance of descriptive norms. For example, although friendship groups' descriptive norms surrounding physical activity may affect people's exercise behaviour, it has been argued that personal health-related norms may be more influential (Priebe & Spink, 2011). However, such claims could be disputed. As discussed,

categorisation would likely lead to identification with those with whom we share similar values, and thus it could be suggested those with health-orientated values could align with a health-orientated group identity, therefore leading to physical activity becoming a descriptive norm when this identity is salient. Thus, although researchers examining normative behaviour have sometimes presented descriptive norms as being individualistic, it is likely that groups are central to a full understanding of norms.

There is also evidence from the SIA to support the idea that ingroup norm adherence affects wellbeing. For instance, both descriptive and injunctive norm compliance may foster positive emotions (Christensen et al., 2004). Moreover, Christensen et al. (2004) suggest that ingroup members who identify highly with their group and who abide by the group's injunctive norms are likely to experience greater positive emotions than those who abide by the group's injunctive norms but have low group identification. This suggests that ingroup members who highly identify are likely to show greater compliance with what is expected of them as a group member (i.e., what is normative of the group). Furthermore, it indicates that abiding by and meeting the demands made by one's group (i.e., enacting injunctive norms) may help foster wellbeing, particularly in those who highly identify. Although this illustrates that group processes may benefit wellbeing, it is important to note that group-based normative processes are complex, with their relevance being heavily dependent upon whether an identity (and thus the respective categories and normative values of the ingroup) are salient (e.g., Jetten et al., 2012). Thus, examination of norms alone is insufficient to gain an understanding of how group identification may influence wellbeing.

Although the fundamental tenets of the SIA help explain gbMSM behaviours, it is also necessary to examine how the SIA can provide useful insights into gbMSM health by exploring how the SIA has been effectively applied in a health-based context.

### **3.3: Social Identity and Health: A Theoretical Review of Social Cure and Curse Processes**



Recently, social psychologists have drawn upon the SIA (Tajfel, 1974) to explore how social identity is central to health, leading to the development of the Social Identity Approach to Health (SIAH, e.g.; Haslam et al., 2018; Jetten et al., 2017, 2012). Although this thesis is examining sexual health in a sexual minority, research on the SIAH will be discussed across a range of populations, due to a lack of research specifically applying the SIAH to sexual minority contexts.

### **3.3.1: Early SIAH Work: Social Identity and Stress**

SIAH research emerged out of SIA researchers' exploration of the topic of stress. Stress causes poor health outcomes, resulting in physiological indicators such as increased cortisol and lowered immune functioning (e.g., Pulpulos et al., 2020). Although stress can be defined as "a state of worry or mental tension caused by a difficult situation" (WHO, 2023), stress is subjective: what is deemed to be a "difficult situation" for one person might not be so difficult for another person. To better understand how individuals perceive stress, Lazarus and Folkman (1984) outlined two types of stress appraisal. Initial stress appraisal, or primary appraisal, involves the individual determining whether a specific stimulus is a stressor. If it is deemed to be a stressor, then secondary appraisal involves the individual assessing whether they have the resources to cope with it. Additionally, Lazarus and Folkman (1984) determined that secondary appraisal could influence primary appraisal (e.g., possessing an abundance of resources may lead to stimulus not being perceived as stressful).

SIA theorists argued that a group-based approach is needed to fully understand stress appraisal (i.e., rather than simply considering "Is this stressful for me?" and "Can I cope with this?"; people also consider "Is this stressful for us?" and "Can we cope with this?"; Haslam et al., 2018). Various SIA studies have evidenced the importance of social identity in the primary appraisal of stress. For example, Levine and Reicher found that an injury is likely to be perceived as more serious (and thus as more stressful) if it is problematic to an individual's currently salient identity (Levine & Reicher, 1996). When participants' gender identity was salient, injuries

impacting the physical appearance of females were deemed more serious (and thus more stressful). However, when participants' Physical Education student identity was salient, no difference in injury appraisal was reported.

Social identity processes may also influence secondary stress appraisal. As will be discussed throughout this chapter, groups provide valuable resources, such as social support (Haslam et al., 2005), which can help members cope with stress. Haslam and colleagues (2015) conducted two studies to examine the impact of group identification on stress: Study 1 examined people recovering from heart surgery, and Study 2 compared appraisals of bomb threats between bomb disposal officers and bar staff. Across both studies, results indicated that group identification was associated with lower levels of stress, largely found to be mediated by social support. This indicates that group identification is central to the experiences of stress, and that groups can provide the necessary resources to help members manage stressors, and thus protect/enhance their health.

However, such resources are neither automatic nor guaranteed. As discussed earlier, for a group member to experience these benefits, it is necessary for them to identify, and thus have a sense of belonging to the social group in question (Haslam et al., 2018). This is evidenced by the BBC Prison Study (Haslam & Reicher, 2006), a recreation of the Stanford Prison Study (Zimbardo, 1971). Participants were allocated to either low-status (prisoners) or high-status (guards) groups. Prisoners were ultimately informed that they could not be promoted to guards (i.e., their low-status group was impermeable), which meant that they could not end their low status by leaving the prisoners and joining the guards. This led to the prisoners banding together in order to face and challenge their low status. These shared values and acts of mutual ingroup support allowed the prisoners to develop a sense of identification, which buffered them against stress. However, even though the guards were in an elevated position, they lacked collective consensus on how to treat the prisoners and were informed their selection was random (rather than them being selected due to them possessing a specific skillset), resulting in feelings of guilt and a lack of

shared identity. Thus, when the prisoners rebelled, the guards lacked the psychological resources needed to manage their stress.

These early studies connecting social identity processes to stress appraisal evidences the importance of groups and their impact on wellbeing and paved the way for the development of the SIAH.

### ***3.3.2: The Development and Broadening of The Social Identity Approach to Health***

By establishing the existence of an important relationship between social identity processes and health/wellbeing, the initial work on stress grew into a burgeoning literature, which was first officially named the SIAH, or more colloquially, The Social Cure Approach, in the 2012 book of the same name (Jetten, Haslam, & Haslam, 2012). The SIAH is drawn from the SIA, stating that an individual's social identity, and therefore their attitudes and behaviours, are shaped by their group memberships. Social Cure processes refer to how group identification may result in benefits to health and wellbeing (Jetten et al., 2017). Building upon previous literature that evidenced the influence of group identification on stress appraisal, the SIAH has considered how group identification may also be beneficial in other health-related contexts. This has led to a vast literature evidencing the association between group identification and health/wellbeing (e.g., Cruwys et al., 2013; Haslam et al., 2008; Jetten, Haslam, & Haslam, 2012; Jetten, Haslam, & Haslam, 2012a, 2012b; Sani et al., 2015a; Wakefield et al., 2020). For example, group identification with water-drinking clubs has been shown to have a positive relationship with water intake in residential homes, with the authors ascribing this effect to perceived social support individuals in water-drinking clubs received (Gleibs et al., 2011). Moreover, Gleibs et al. (2011) highlighted the psychological and physical benefits of this group identification (e.g., better mental health and fewer GP appointments). This suggests that group identification may provide benefits to physical health (thus requiring less GP appointments), in addition to psychological benefits (i.e., better mental health). Moreover, group identification can facilitate health-promoting behaviours (e.g.,

staying hydrated), and thus could be argued to minimise the strain on healthcare services, thus evidencing that groups are a powerful tool in producing favourable health outcomes.

So far, this chapter has considered how traditional Social Cure processes occur (i.e., through group identification having a beneficial impact on wellbeing), which has largely been attributed to group identification leading to the availability of social support. However, later developments of the SIAH have considered the complexities surrounding the relationship between group identification and health. This has allowed for elaboration on variables that may mediate Social Cure processes, evidencing that alongside social support, group identification may provide other resources that are beneficial for health. Two of these mediators are especially relevant for this thesis: social support itself, and perceived personal control.

### ***3.3.3: Mediators of the Relationship Between Group Identification and Health-Wellbeing***

**3.3.3.1: Social Support.** As discussed, early Social Cure research showed that the positive impact of group membership on health was attributable to social support (i.e., group identification was a positive predictor of social support, which in turn was a positive predictor of health/wellbeing). Later SIAH research has explored this key mediating role of social support in more depth.

For example, the role of social support has underpinned understandings of alcohol addiction recovery, suggesting that belonging to recovery groups provides members with the support needed to stay sober (Best et al., 2016). Social support has also been observed as a mediator in responses to illness. For example, during the COVID-19 pandemic, greater group identification and emergent identities (e.g., identification with the local community) were associated with increased wellbeing, which was mediated by social support (Carter et al., 2022). Carter et al. (2022) concluded that social support may be perceived as a resource in times of need (e.g., the immediate threat of the pandemic), whilst also providing future opportunities for group members to support each other. Thus, it may be possible to argue that identity continuity (i.e.,

sustaining one's membership of key groups across time) provides group members with reassurance that they will be able to lean on their groups in future. This expectation that social support will be available from group members during difficult times is known as perceived social support (as opposed to received social support) and is an important positive predictor of wellbeing (Guan & So, 2016).

**3.3.3.2: Perceived Personal Control.** Group identification can enhance an individual's sense of perceived personal control, which can, in turn, benefit health/wellbeing (Greenaway, Haslam, et al., 2015). If an individual perceives themselves to have greater control, then this will result in them feeling more capable and more able to manage aspects of their life. This is supported by how an increased sense of perceived control is associated with increased coping with stress (Compas et al., 1991). However, as with other Social Cure mediating processes, identifying with the group in question is a pre-requisite for experiencing an increased sense of perceived control (Haslam et al., 2018). Research by Abrams and colleagues (1999) also indicates that strength of group identification can moderate the relationship between perceived personal control and wellbeing, with the relationship between low perceived control and poor health/wellbeing being attenuated for participants with strong ingroup identification.

Perceived personal control has also been observed to mediate the relationship between group identification and health/wellbeing in a healthcare context. For example, perceived personal control was reported to mediate the relationship between high ingroup identification and good health/lifestyle changes (Fritsche, 2022). It is thus anticipated that control will be an important variable to explore in the context of this thesis. However, because research has yet to explore SIAH mediators in the context of gbMSM identification and wellbeing, it is difficult to know whether perceived personal control (and social support) will be beneficial to gbMSM. The present research will explore these important SIAH mediators (support and control), thus allowing for a clearer understanding of the relationship between gbMSM identification and health and wellbeing.

**3.3.3.3: Multiple Group Memberships and Health/Wellbeing.** Identification with multiple groups has been shown to predict better mental health (Sani et al., 2015a) and increased self-care, such as regular exercise and eating healthily (Sani et al., 2015b). Authors have considered why multiple group identifications may contribute to better health. One possibility is that as the number of groups to which an individual belongs increases, the number of resources available to that person also increases, thus increasing the health/wellbeing benefits for the individual in question (Iyer et al., 2009). As with identification with single groups, social support has been shown to be an important mediator of the relationship between multiple group identifications and health/wellbeing. For instance, Kearns et al. (2018) found that identification with multiple groups predicts social support, which in turn predicts reduced mental health stigma, which in turn predicts better wellbeing.

Researchers have also considered how multiple group memberships may be beneficial during life transitions, which are conceptualised within the SIAH as identity transitions (e.g., losing one's work identity and gaining a retiree identity when retiring; Haslam et al., 2021). This is conceptualised in the Social Identity Model of Identity Change (SIMIC; Haslam et al., 2008, Jetten et al., 2009), which posits that life transitions are a source of stress, but that this stress is buffered by: i) possessing multiple pre-transition groups which are maintained through the transition; ii) joining new groups during/after the transition; and iii) perceiving one's group memberships as being compatible (i.e., it is easy to belong to them at the same time). This again highlights the importance of multiple group memberships for health/wellbeing. Indeed, evidence to support the SIMIC has been observed across contexts such as recovery from stroke (Haslam et al., 2008), adapting to life with an acquired brain injury (Muldoon et al., 2019), motherhood (Hennekam, 2016) and addiction recovery (Best et al., 2016).

#### **3.4: When Groups Harm Health: Social Curse Processes**

Group identification can provide resources such as social support that can act as a buffer against negative health outcomes. However, group membership does not guarantee positive health outcomes. Indeed, there are instances where group membership may result in negative outcomes: A phenomenon dubbed the Social Curse (Këllezi & Reicher, 2012). Social Curse processes have been observed across a broad range of contexts and tend to be categorised in one of three ways: lack of ingroup support, unhealthy ingroup norms, and stigmatised identities.

#### ***3.4.1: Lack of Ingroup Support***

It is well-established that belonging to a group within which support is not provided can be detrimental to one's health. This may occur because one is perceived to have violated ingroup norms. For instance, The Black Sheep Effect (Marques & Paez, 1994) posits that ingroup members who behave counter-normatively are judged and treated more harshly than outgroup members who behave in the same way. Këllezi and Reicher (2012) developed the Social Curse approach through their investigation of the Kosova war, which occurred between Serbians and ethnic Albanians in 1998-1999. The Serbians frequently engaged in wartime rape to humiliate the Albanian survivors and their families. While this was bad enough, Këllezi and Reicher (2014) described how the survivors were subjected to a 'double insult': first the rape itself, and then the withholding of much-needed ingroup support from fellow Albanians, because the rape was seen to violate ingroup norms of female chastity (for female rape survivors) and male strength and heterosexuality (for male rape survivors).

Another context in which a lack of social support has been associated with poorer wellbeing is in UK-based Immigration Removal Centres (IRCs; Këllezi et al., 2019). Këllezi and colleagues (2019) explored how undocumented migrants who were detained in these centres made sense of and coped with their experiences. Participants largely rejected the 'detainee' label, which they perceived as being highly stigmatised (the relevance of which will be explored later in this section). Although participants described other commonalities (e.g., religion) as sometimes

bringing them together, threat of deportation from the IRC at any time meant that participants often felt psychologically unable or unwilling to identify with others. Participants were thus not only physically isolated, but also socially isolated (both from their families back home, and from other detainees). Moreover, even when support was available from family or other detainees, participants described how they often refrained from seeking it, so as not to burden or worry others.

Observing Social Curse processes in this context builds upon Këllezi et al.'s (Kellezi et al., 2009; Kellezi & Reicher, 2012a) findings from the Kosova conflict by demonstrating that, in some cases, much-needed social support is not sought or accepted from ingroup members (even if it is available) due to fears of burdening others, or of being rejected. Moreover, instability of relationships (e.g., with other detainees) may result in feelings of helplessness and reluctance to form groups (Këllezi et al., 2019). Thus, the instability of a given environment may influence decisions on whether investments in meaningful bonds with others could be helpful and could influence whether an individual identifies with a group, and thus whether they receive key social resources that buffer stressors.

This section has highlighted how a lack of access to social support can result in negative consequences for health/wellbeing. Violation of societal norms can result in an inability to access much-needed support (Këllezi & Reicher, 2012). Moreover, individuals may choose not to seek ingroup help (even when available) due to fear of rejection, feelings of shame, or not wanting to burden others (Këllezi et al., 2019). However, lack of social support is only one type of Social Curse process. For instance, although ingroup norm violation can lead to negative health-related consequences (Këllezi & Reicher, 2012), it is also possible for norm *adherence* to harm health.

### **3.4.2: Unhealthy Ingroup Norms**

There is a range of evidence to support the idea that identifying strongly with a group which possesses unhealthy norms is likely to lead to the individual in question adhering to those



norms, and thus to damage their health. However, norms can be culturally significant, and thus discouraging group members from engaging in (unhealthy) normative behaviour could also cause social- and health-related challenges. With this caveat in mind, this chapter will now consider evidence of the impact of unhealthy group norms on an individual.

One context in which unhealthy norms have been observed to impact health is through diet and nutrition (Cruwys et al., 2012; Robinson et al., 2014), indicating that the groups to which we belong may influence food consumption. This has been observed in African communities in North America, where healthy eating interventions have been ineffective at changing eating behaviour due to food and diet holding cultural meanings associated with aspects such as historical slavery (Airhihenbuwa et al., 1996) ; Beagan & Chapman, 2012a). As discussed by Beagan and Chapman (2012), although group members may be aware that adopting a healthier diet would be medically beneficial, it is possible that such dietary changes could result in social costs by compromising their cultural identities. This could weaken identification with the group and its members, which in turn would be anticipated to hinder access to group resources such as social support. As a lack of ingroup support has been associated with poor health outcomes (Airhihenbuwa et al., 1996; Beagan & Chapman, 2012a), it is possible to argue that rejecting group norms (e.g., adapting one's diet) could act as a Social Curse itself.

Alcohol consumption norms have also been explored. Livingstone et al. (2011) investigated how norms may influence drinking intentions in British university students who perceived heavy alcohol consumption as central to their identity. Findings indicated that high identifiers were more likely to challenge drinking intentions of those who only moderately identified with heavy drinking norms but were less likely to challenge those who already perceived drinking as central to their identity. This indicates that although heavy alcohol consumption may be dangerous to an individual and lead to complications such as cirrhosis (Pequignot et al., 1978), those who highly identify with a group may be able to pressurise others into following group norms. Thus, group members with high identification may be argued to act as a form of influence

towards those who identify to a lesser extent, which may result in those group members also experiencing health problems due to their group membership, even if they themselves do not perceive unhealthy norms such as excessive alcohol consumption as being central to their identity.

Normative behaviour around smoking has also been explored. In a longitudinal study of adolescents in Northern Ireland, it was found that the uptake of smoking was influenced by the desire to conform to the group with which the individual identified (Stewart-Knox et al., 2005). It was reported that smoking behaviour was connected to positive in-group experiences (sharing) and a sense of belonging. Social identity also was reported to influence whether a young person would continue to smoke or not, with switching to an alternative peer group being reported as a smoking deterrent. However, segregation was also reported between smokers and non-smokers, which may reduce group boundary permeability, and thus decrease the likelihood of smokers becoming non-smokers.

The Social Curse process of adherence to unhealthy norms (especially by strong ingroup identifiers) has been evidenced across a range of behaviours, including diet, alcohol consumption, and smoking. However, adherence to sexuality-related norms remains relatively understudied. Groups such as gbMSM would be anticipated to have their own norms and shared beliefs regarding sex and sexuality, some of which (e.g., not using condoms) may result in negative health outcomes. However, this thesis has also shown that gbMSM remain a highly stigmatised group. Thus, before it is possible to consider how the research discussed in this chapter may inform research on gbMSM, it is necessary to examine the third category of Social Curse processes: the impact of a stigmatised or burdensome identity on health/wellbeing.

### ***3.4.3: Stigmatised and Burdensome Identities***

As explored earlier, Social Curse processes can be caused by an individual failing to receive resources that are usually associated with group membership, which is commonly observed among stigmatised groups, as has been evidenced in the context of incarceration. Due to their

new stigmatised identity as a prisoner, participants report rejection from family members, leading to them feeling socially isolated and unable to seek social support (Bradshaw & Muldoon, 2020). Such outcomes can also occur for whole communities. For instance, McNamara and colleagues (2013) explored the experiences of a stigmatised and low-status community in Limerick (Ireland) and described how experiences of stigma reduced the likelihood of residents engaging in collective action (i.e., working with other community members to address local issues) which had the potential to benefit their health/wellbeing.

As highlighted in Chapter 2, stigma need not be experienced to result in detrimental effects. Indeed, stigma can be anticipated in the form of stereotypes, meta-stereotypes, and meta-perceptions. This has led to research examining the role of stigma as a Social Curse process, with a specific focus on help-seeking. For instance, it has been highlighted that anticipated stigma alone is sufficient for an individual to avoid drug-based interventions (Corrigan et al., 2006). Moreover, anticipated stigma can promote feelings of distrust, thereby hindering disadvantaged community members' access to local community and government resources and reducing service usage (Stevenson et al., 2014). Stevenson et al. (2014) argue that anticipated (and experienced) stigma ultimately turn supportive intragroup interactions between residents and service providers into tense intergroup interactions. Thus, even though service workers may be able to support disadvantaged and stigmatised groups, it is necessary that an individual perceives them as a member of their community, as distrust between service users and service workers may undermine potentially positive and supportive interactions that could in turn lead to better health outcomes.

Although this chapter has explored Social Cure and Social Curse processes separately up to this point, it is rarely the case that one group entirely helps or entirely harms a member's wellbeing (Wakefield et al., 2019). With this in mind, the next section will explore the complex interplay between Social Cure and Social Curse processes.

### **3.5: The Interplay of Social Cure/Social Curse**

Research has begun to consider how Social Cure and Social Curse processes interact to produce complex health outcomes, although this remains an understudied topic. Nonetheless, it is important to acknowledge that much of the Social Curse research discussed thus far has also outlined beneficial effects of group membership.

Although the theory pre-dates the SIAH, an important idea for this thesis is the Rejection Identification Model (RIM; Branscombe et al., 1999). The RIM posits that when faced with perceived discrimination, those belonging to stigmatised groups (e.g., gbMSM) are anticipated to show greater identification with others belonging to their stigmatised group (i.e., fellow gbMSMs). GbMSM often face significant discrimination and stigma (see Chapter 2) which negatively impacts health/wellbeing (Berg & Ross, 2014; Berger, 1992; Burns et al., 2012; Harper & Schneider, 2003; Woodford et al., 2014). However, it has been suggested that gbMSM identification may be helpful in buffering against discrimination, with gbMSM identification mediating the relationship between perceived discrimination and self-esteem (Doyle & Molix, 2014). Therefore, although gbMSM are likely to experience discrimination and stigma, the relationship between gbMSM identification and wellbeing is complex, such that minority group status may lead to discrimination, while identification with fellow gbMSM may help buffer against negative wellbeing outcomes. This indicates the importance of the RIM to the present research.

SIAH research has also explored how stigmatised group members may be faced with challenging intergroup interactions. For example, although Stevenson et al. (2014) reported members of a stigmatised group may struggle with intergroup relations with service workers (i.e., Social Curse), they also reported that community members had beneficial and supportive intragroup interactions with each other. Thus, as group identification has been associated with resources such as social support, it is possible that healthy ingroup relations may act as a Social Cure, buffering against stigma-related stressors reported in intergroup contexts. Thus, as group

processes are likely to be complex and not result in solely beneficial or detrimental effects to health, it is necessary to examine research that has explored the interplay between Social Cure and Social Curse processes, to better understand how group identification may impact health/wellbeing.

The interplay between Social Cure and Social Curse has been evidenced by exploring the impact of neighbourhood deprivation and stigma on wellbeing. For example, although low socioeconomic status (SES) is associated with poor health outcomes (e.g., Bradshaw et al., 2016; Fong et al., 2019), it has been shown that strong neighbourhood identification may act as a buffer against potential stressors associated with living in a low SES neighbourhood (Fong et al., 2019). Thus, although those from low SES communities may face additional stressors, the resources provided by groups (e.g., social support) may help minimise the impact of such stressors. However, if an individual does not identify strongly with their neighbourhood, they will not be shielded from the stressors associated with low SES.

Deprivation in low SES communities can often lead to food insecurity, and thus foodbanks are necessary to help those who do not have the financial means to feed themselves or their families. However, although many disadvantaged individuals may require support from foodbanks, attending foodbanks can be difficult due to the stigmatised nature of foodbank users in the community. Thus, although many may need to use foodbanks, stigma is likely to impede access, as explored by Bowe et al. (2019). The authors reported that foodbank clients often only resorted to using foodbanks when extremely desperate (i.e., had not eaten in days), due to the intense stigma and shame surrounding foodbanks. This suggests that belonging to a disadvantaged group (e.g., communities experiencing poverty), can result in having to join other stigmatised groups (e.g., foodbank clients). However, although foodbank clients perceived asking for food-related help to be shameful, Bowe et al. (2019) noted that foodbank volunteers generally voiced a positive and non-judgemental ethos towards clients. This ensured clients felt humanised, and ensured client' physical needs (i.e., food) and social needs (e.g., social support) were met. However, although

foodbank volunteers provided social support (and thus helped to reduce Social Cure processes), foodbank clients still described their desire to emphasise their legitimacy (i.e., that they were genuinely hungry, rather than a 'scrounger', which was perceived as an even more stigmatised identity than that of foodbank client). Bowe et al.'s (2019) exploration of group processes in foodbanks thus highlights the complex interplay between Social Cure and Social Curse processes in this environment.

The interplay between Social Cure and Social Curse processes have also been explored in the context of families facing financial issues. For instance, Stevenson et al. (2021) found that family identification positively predicted participants' ability to cope with financial stress, but only if family support was present. This means that if the family does not have the financial resources to support its members, then the well-established relationship between group identification and wellbeing may be negated. Lack of physical resource can thus change supportive Cure dynamics into harmful Curse dynamics.

Although HIV is a global health concern often associated with minority groups, research has rarely explored group processes underpinning perceptions of HIV. When considering that HIV is a lifelong (yet preventable) disease that is heavily imbued with stigma (that is often attached to the gbMSM group), it is necessary to explore how the SIA has specifically been applied to the topic of HIV. After this, the chapter will conclude by outlining this thesis's novel contribution to knowledge regarding how gbMSM group processes affect perceptions of/attitudes towards HIV and its prevention.

### **3.6: Applying the Social Identity Approach to HIV**

Although this chapter has evidenced the usefulness of adopting the SIAH, application of the SIAH to HIV is limited. Rintamaki (2009) explored how an individual makes sense of their HIV diagnosis through negative perceptions of their HIV identity, positive perceptions of their HIV identity, the influence of stigma, and how (and when) their HIV identity becomes salient. Although

it is encouraging to see a rare example of the SIA being applied to the topic of HIV, Rintamaki (2009) fails to explore how a LWHIV social identity may affect health (as could be achieved through application of the SIAH). Although it is acknowledged that applying the SIAH to facilitate HIV prevention could foster a sense of community, normalise HIV, and encourage healthier behaviours (Latkin et al., 2003), application of the SIAH remains limited. If SIAH interventions could encourage healthier behaviours, then this could be helpful for at-risk populations such as gbMSM, and could help foster healthier behaviour (e.g., PrEP use). However, at present, research applying the SIAH to gbMSM and HIV is limited, meaning research is insufficient to inform interventions.

Research which has attempted to apply the SIA/SIAH to HIV can also be considered somewhat problematic. For example, although Mayfield et al. (2008) explored HIV through a SIA lens, they conclude that variables predicting behaviour such as disclosure of LWHIV are interpersonal (e.g., (lack of) social support received from other individuals), thereby undermining the complex group-based processes explored in this chapter. This suggests that a more nuanced exploration of SIA/SIAH processes in the context of HIV is needed.

Researchers have shown that people make use of a broad range of social identities when attempting to make sense of their HIV diagnosis. For instance, this may include drawing on one's religious identity (Fuller et al., 2021). Additionally, Campbell (1997) showed that when male participants living in sub-Saharan Africa were asked to reflect on their HIV diagnoses, participants often provided complex accounts that suggested the role of multiple identifications as a method of coping with LWHIV. For example, due to sub-Saharan African gendered norms of masculinity requiring men to act strong, participants often reported that their masculine identity was an effective way of coping with their diagnosis because it allowed them to maintain a sense of identity continuity and stigma reduction by behaving in a 'strong' (and socially normative) masculine manner, even when they felt unwell.

Thus, although SIAH/SIAH research exploring HIV is limited (indeed, there is no SIAH research explicitly exploring attitudes to PrEP), there has been some success examining HIV through a social identity lens, thus evidencing that the SIAH is an appropriate theoretical underpinning for this thesis.

### **3.7: Rationale for the Present Research**

As discussed in Chapter 1, medical approaches have developed good understandings of HIV epidemiology, which has led to the development of pharmaceutical treatments to successfully manage HIV, usually with minimal side effects (Campbell, 1997). However, LWHIV requires lifelong antiretroviral treatment (ART), which is a significant financial burden to public health sectors (Schackman et al., 2015). Although successful HIV treatment can result in an undetectable viral load (thus meaning that the virus cannot be transmitted; Eisinger et al., 2019), stigma surrounding HIV and LWHIV (especially for groups commonly associated with the virus, such as gbMSM) is still frequently reported (e.g., Berg & Ross, 2014; Bernays et al., 2017; Campbell et al., 2005; Courtenay-Quirk et al., 2006; Deblonde et al., 2010; Earnshaw et al., 2015, 2020; Tan et al., 2020). This has led to public health organisations and researchers emphasising the importance of HIV prevention in an attempt to minimise financial and social costs (i.e., stigma) associated with LWHIV.

A medical approach to HIV has increased understanding of HIV transmission, leading to vital breakthroughs in HIV prevention (e.g., HIV testing and PrEP). However, their success is arguably dependent on understanding underlying sociopsychological processes that are likely to influence attitudes to HIV prevention. Although stigma surrounding HIV is rife, many gbMSM still engage in sexual risk-taking (e.g., Carballo-Diequez & Bauermeister, 2004; Clatts et al., 2005; Cochran & Mays, 1993; Crawford et al., 2003; Hamilton & Mahalik, 2009). Such behaviours call into question the efficacy of traditional HIV prevention methods (i.e., condoms), which require careful and consistent usage (e.g., Klassen et al., 2019). Failing to emphasise the importance of



sociopsychological processes underpinning gbMSM attitudes to HIV prevention tools (e.g., PrEP) could reduce the efficacy of such tools.

HIV remains strongly associated with gbMSM, which is likely attributable to socio-cultural depictions of HIV as a 'gay disease' during the HIV/AIDS Crisis (Cullen, 2001). As a minority group, gbMSM are often reported to experience stigma and discrimination (Berg & Ross, 2014; Boysen et al., 2006; Coulter-Thompson et al., 2023; Hackl & Newman, 2015; Tan et al., 2020), which in turn impacts gbMSM wellbeing (Brown et al., 2017; Earnshaw et al., 2020; Van Damme-Ostapowicz et al., 2015; Watts & O'Byrne, 2019). The strong ties between gbMSM (a stigmatised minority group) and HIV (an already stigmatised disease) may further 'spoil' gbMSM identity, exacerbating the stigma experienced by gbMSM. Such associations have been observed with PrEP. When PrEP was launched, stigma was so extreme that some gbMSM felt unable to take it (Jaspal & Daramilas, 2016). Moreover, PrEP has been associated with risk-taking and promiscuity in gbMSM (a stigmatised minority group; Biello et al., 2017; Blumenthal & Haubrich, 2014; Brooks et al., 2019; Chittamuru et al., 2020; Dubov et al., 2018; Felsher et al., 2018; Franks et al., 2018; Hascher et al., 2023; Hildebrandt et al., 2019; Meanley et al., 2021; Pawson & Grov, 2018). The stigma surrounding gbMSM, PrEP, and HIV has yet to be adequately explored within the social psychological literature, which not only limits understandings of these stigma processes, but also how such stigma could be reduced.

Stigmatised interactions have also been observed between gbMSM and healthcare professionals, with stigma described as a barrier to gbMSM sexual health service uptake (e.g., Calabrese et al., 2017; Kia et al., 2022; Watts & O'Byrne, 2019). This is problematic, as HIV symptomatology is usually brief, influenza-like (and thus thought to be general illness not HIV infection), or asymptomatic, and therefore unless gbMSM actively engage with HIV testing (e.g., through attending clinics), it is possible they could be unknowingly LWHIV. Therefore, if poor relationships between gbMSM and healthcare professionals could limit service uptake, gbMSM may have less awareness of their sexual health status, and potentially could contract HIV, which

could be passed on to others. As gbMSM are usually reliant on clinics for access to PrEP, it is argued that a group-based approach (e.g., SIA; Tajfel & Turner, 1979), is necessary to understanding intergroup relations between gbMSM and healthcare professionals.

As the present chapter has explored, distrust of service workers can hinder clients' service engagement (e.g., Stevenson et al., 2014), and this is a concerning finding in the context of preventative medications such as PrEP. However, although stigma-related processes can be perceived as being driven by group processes (e.g., Calabrese et al., 2017; Hildebrandt et al., 2019), pre-existing research has failed to provide any in-depth exploration of how group processes may underpin such transactions, and how this may influence attitudes to novel medical advances such as PrEP. This is thus a novel and much-needed area of exploration, which will improve understanding regarding perceptions of and (lack of) PrEP use.

Although research has highlighted the relevance of identity to gbMSM attitudes to PrEP, it has often failed to elaborate on the role of group-based processes underpinning PrEP. For example, although researchers such as Prof. Rusi Jaspal (who has significantly contributed to current understandings of attitudes to PrEP) have argued the importance of social identity in PrEP contexts, research has sometimes lacked a theoretical underpinning (Jaspal et al., 2019). Moreover, although findings such as attitudes to gay men being a mediator of attitudes to PrEP provide insight into the relationship between gbMSM and PrEP, participants in this research belonged to multiple ethnicities, sexualities, genders, and religions. As it would be anticipated that homosexuality would be perceived negatively by certain ethnicities and religious groups (e.g., Jäckle & Wenzelburger, 2015), it can be argued that statistical approaches fail to capture the complexities of identity and group-based processes due to being unable to elaborate on the role of these likely significant identities.

Jaspal has since explored how Identity Process Theory (IPT; Breakwell, 1986), could help explain gbMSM behaviour, and how this may apply to PrEP attitudes. However, application of IPT

to gbMSM and PrEP-related data has often occurred post-hoc (Jaspal, 2018), and therefore it could be suggested that more empirical research is needed that directly applies a theoretical underpinning to research from the project's outset. SIA/SIAH also had advantages over IPT for the present research, as a SIA/SIAH perspective allows for in-depth exploration of both ingroup processes (e.g., norms) and intergroup dynamics, whereas IPT provides a broader framework with less focus on intergroup processes. Although there is undoubtedly merit to an IPT approach, due to the importance of exploring stigma processes between gbMSM and healthcare professionals, it can be argued that a SIA/SIAH approach is more suitable, as it is important that any theoretical framework underpinning the present research adequately captures intergroup dynamics due to their importance to gbMSM and to PrEP access via interactions with healthcare professionals.

Other research that has explored the role of identity processes has adopted a Social Representations Theory (SRT; e.g., Moscovici, 1988) approach. SRT has been helpful for understanding gbMSM attitudes to PrEP due to it shedding light on social contexts. However, SRT has been criticised for lacking a strong theoretical contribution, in addition to being vague (Rochira et al., 2020).

SRT research into gbMSM attitudes to PrEP has provided a solid foundation for understanding the sociopsychological variables underpinning PrEP usage. Indeed, qualitative SRT research has shown that, due to PrEP being perceived as heavily stigmatised, gbMSM may avoid PrEP (Jaspal & Daramilas, 2016). SRT research has also emphasised the challenges of LWHIV, and how stigmatised representations may lead to those LWHIV feeling threatened (Jaspal & Williamson, 2017), in addition to highlighting that media representations of PrEP often emphasise a sense of hope, but also emphasise risk-taking (Williamson et al., 2019). SRT has provided an important foundation for future PrEP research by highlighting the importance of stigma and representations of gbMSM, HIV, and PrEP. However, SRT research fails to explore how representations of PrEP could be more richly understood by elaborating on the group processes underpinning these representations. Therefore, to understand more about potential intergroup

processes underpinning PrEP, it is necessary to adopt a SIA/SIAH perspective to more adequately explore the potential role of group processes on gbMSM's PrEP attitudes.

Additionally, although PrEP stigma is often observed in research on this topic (e.g., Biello et al., 2017; Chittamuru et al., 2020; Dubov et al., 2018; Franks et al., 2018; Hildebrandt et al., 2019; Jaspal et al., 2019; Jaspal & Daramilas, 2016; Jaspal & Nerlich, 2017, 2017; Meanley et al., 2021), it is possible to argue that such research neglects the complex, group-driven nature of that stigma, and how it may affect gbMSM's attitudes to PrEP. Thus, this thesis aims to expand on previous research by exploring how the socio-political history of gbMSM (e.g., experiences of stigma, including the historical context of the HIV/AIDS Crisis) underpins modern perceptions of HIV, sexuality, sexual healthcare services, and, importantly, PrEP. This thesis will be the first time that SIAH-informed research has been conducted to explore gbMSM's attitudes to PrEP, as well as the group process-related predictors and health-related outcomes of those perceptions.

Finally, as discussed in this chapter, the SIA has provided a useful framework for exploring the impact of social identity process on health (i.e., the SIAH). This had led to much research exploring how Social Cure and/or Social Curse processes may exist, yet it is possible to argue that, due to the complex nature of how Social Cure and Social Curse processes interact, this is not yet fully understood. As it has often been established that minority sexual groups such as gbMSM experience both beneficial and detrimental effects of group identification (e.g., RIM; Branscombe et al., 1999), it is anticipated that the relationship between gbMSM identification and wellbeing is complex. Thus, this thesis also aims to advance the theoretical literature on Social Cure/Curse processes to better understand the nuances surrounding group membership and its impact on health.

### **3.7.1 Thesis Aims**

This thesis will address these aforementioned issues via the following central objective:

**Central Objective:** To explore whether (and, if so, how) group processes underpin gbMSM's attitudes to PrEP, and what the health-related outcomes of these attitudes are.

This central objective will be achieved by addressing the following aims:

**Aim 1 (addressed by Study 1):** To explore the sexuality-related norms of the gbMSM community and consider how these impact upon attitudes to PrEP.

**Aim 2 (Addressed by Studies 1 and 2):** To explore the group-related stigma processes underpinning gbMSM's attitudes to sexuality, HIV, and PrEP, and how these relate to gbMSM health/wellbeing.

**Aim 3 (Addressed by Studies 1 and 2):** To advance theoretical understandings of how groups may benefit and harm health.

**Aim 4 (Addressed by the Recommendations Chapter):** To make practical recommendations that will enable the knowledge gained from this thesis to be applied to the real world, so as to benefit gbMSM and wider society.

### ***3.7.2 Justification for Using Mixed-Methods***

A mixed-methods exploratory sequential design (e.g., Creswell et al., 2003), was adopted for this thesis (interviews and a longitudinal survey). As stated previously, identity-based research exploring attitudes to PrEP remains limited, with group-based processes remaining relatively understudied. Moreover, due to PrEP being a relatively new drug, it was difficult to ascertain how PrEP would be perceived by gbMSM at the time of interviewing. Thus, due to no previous research exploring attitudes to PrEP using a SIAH perspective, a qualitative approach was deemed appropriate, due to it providing the opportunity to explore the feasibility of SIAH as a theoretical underpinning in this context (e.g., Collins & Stockton, 2018).

It was concluded that beginning with qualitative research (i.e., Study 1) would be advantageous due to limited research on group-based processes underpinning gbMSM attitudes

to PrEP. Qualitative research provides in-depth accounts from participants, allowing them to share their lived experiences, while also allowing for observation of patterns across the data (Braun & Clarke, 2021). Therefore, it is appropriate to first explore gbMSM community values and attitudes to HIV and PrEP through qualitative research. However, as this thesis is concerned with attitudes to PrEP (a medical tool), it is also important that research can aid relevant stakeholders' understanding of gbMSM attitudes to PrEP. The present research thus must also investigate trends and relationships between sociopsychological variables and PrEP: something quantitative research facilitates.

Due to the merits of both qualitative and quantitative research for this thesis, an exploratory sequential mixed-methods design (e.g., Creswell et al., 2003) is arguably most suitable. Although the epistemologies underpinning qualitative and quantitative research differ vastly, adopting a mixed-methods approach enables this thesis to explore gbMSM attitudes to PrEP in a way that would not be possible through either methodology alone (Almalki, 2016; Doyle et al., 2009).

As group processes remain relatively understudied in previous literature on gbMSM's attitudes to PrEP, it is appropriate to first explore gbMSM community values and attitudes to HIV and PrEP through qualitative research, because it allows participants to provide rich and detailed accounts of their perceptions and experiences (e.g., Atieno, 2009). Study 1 will thus involve semi-structured interviews with gbMSM. Although previous qualitative research has been conducted to explore gbMSM's attitudes to PrEP (Jaspal & Daramilas, 2016; Williamson et al., 2019), such research has failed to capture group processes. Moreover, as a relatively new drug, attitudes to PrEP are changing rapidly. This means that previous perceptions of PrEP could be outdated, further evidencing the importance of re-examining attitudes and behaviours surrounding PrEP through qualitative research.

As well as providing rich and detailed data in its own right, Study 1 will inspire the selection/development of the measures used in Study 2 (a longitudinal quantitative survey study). As this thesis has highlighted, community values and norms must be considered when attempting to understand social determinants of health, so it is important that Study 1 participants assist in the designing of Study 2 in order to ensure that the selected variables are relevant to the target population and speak to their experiences and perceptions. This perspective presents the participants as experts, and has been effective in other HIV-related research (e.g., Galbraith et al., 1996).

In summary, this thesis will involve Study 1 (a reflexive thematic analysis) and Study 2 (a three-wave longitudinal survey study). It should be noted that a third study was planned (another interview study to explore healthcare professionals' perceptions of and attitudes to PrEP). However, due to data collection occurring during the initial COVID-19 outbreak, many sexual health clinics were closed, with staff often redeployed, creating difficulty in recruiting sexual health professionals. Although one interview with a sexual health professional was conducted, the interview cast further doubt on the feasibility of this study. For example, it was discussed that due to sexual health services being significantly underfunded, any meaningful interactions with healthcare professionals were only possible for gbMSM the greatest need (i.e., those LWHIV). The fact that gbMSM seeking PrEP were unlikely to have meaningful conversations with healthcare professionals led to concerns that interviews with healthcare professionals would lack the sufficient depth for analysis. Due to concerns surrounding the feasibility of this study, alongside the significant challenges faced recruiting due to COVID-19, the study was abandoned. However, healthcare professionals are still perceived to be an important component of gbMSM attitudes to PrEP, and therefore this will be discussed in greater detail in this thesis's General Discussion (See Chapter 9).

Although this thesis so far has highlighted the importance of sociopsychological variables underpinning gbMSM attitudes to PrEP, research has failed to adequately explore how group-

based processes may underpin gbMSM attitudes to PrEP. Therefore, it is necessary to turn to Study 1, a qualitative exploration of gbMSM attitudes to PrEP underpinned by the SIA/SIAH perspective.



## **Chapter 4. Study 1a: A Qualitative Exploration of The Role of Intragroup Processes in Attitudes Towards Sex and PrEP in Gay Men, Bisexual Men, and Men Who Have Sex with Men (GbMSM).**

### **4.1 Study 1 Introduction**

The previous chapters have argued that adopting a group-based approach may be helpful to understanding gbMSM attitudes to PrEP. For example, it has been established that gbMSM group norms such as substance misuse may negatively impact sexual behaviour (Fishbein et al., 1993; Hamilton & Mahalik, 2009). Group norms influence sexual behaviour (Hamilton & Mahalik, 2009), so exploring gbMSM norms may provide insight into gbMSM sexual risk-taking and gbMSM attitudes to HIV and safe sex (e.g., PrEP use). Thus, as research has established group norms influencing gbMSM sexual behaviour, it is likely that norms may also underpin gbMSM attitudes to PrEP. Research has also observed that PrEP use in gbMSM is sometimes stigmatised by fellow gbMSM (Meanley et al., 2021). This suggests that intragroup processes may be helpful to understanding stigma processes underpinning attitudes to PrEP.

It is possible that negative ingroup perceptions could deter gbMSM from PrEP usage. Although PrEP decreases the risk of HIV infection, if gbMSM perceive PrEP negatively it could be expected that this would be associated with lower PrEP uptake, thus reducing the efficacy of PrEP as an HIV prevention tool. Thus, it is argued that an intragroup approach to gbMSM attitudes to PrEP could provide beneficial insight into how the beliefs and norms of gbMSM could influence their attitudes to PrEP.

The previous chapters have also established that as a sexual minority group, gbMSM often experience HIV-related stigma and discrimination (Burns et al., 2012), predominantly due to stigmatised associations between gbMSM and HIV stemming from the HIV/AIDS Crisis of the 1980s/90s. This can lead to stigmatised interactions with healthcare professionals: although gbMSM remain an at-risk group for HIV (thus signifying the importance of regular HIV testing), challenging and hostile intergroup relationships between gbMSM and healthcare professionals are

often still reported (e.g., Fingerhut & Abdou, 2017; Kia et al., 2022; McKeown et al., 2012). Thus, although it is vital that gbMSM engage with sexual health services, it is possible that the risk of stigmatised interactions with healthcare professionals could deter regular usage. Moreover, as PrEP is prescribed at clinics, it is possible that poor intergroup relationships could limit gbMSM access to PrEP. This would suggest that although intragroup processes are likely to be important for understanding attitudes towards PrEP, intergroup processes could also influence gbMSM sexual health, including factors such as willingness to approach healthcare professionals to obtain PrEP. Therefore, due to the plausibility of both intragroup and intergroup processes underpinning gbMSM attitudes to PrEP, the present chapter introduces Study 1, a qualitative exploration of gbMSM community, sexual health behaviour, and attitudes to PrEP with a SIAH theoretical underpinning. Adopting a SIAH lens will enable the present research to explore possible group processes underpinning gbMSM attitudes to PrEP (thereby contributing to the central thesis objective). Although it is possible to infer group-based processes in previous PrEP research (thereby adding to the plausibility of the role of group-based processes), research has often neglected the role of identity and group-based processes that may underpin attitudes to PrEP.

As Study 1 provided a much-needed in-depth exploration of group processes, it was necessary to split the analysis to better communicate the vastness of the data corpus. This led to the present chapter exploring intragroup behaviour (i.e., Study 1a), with subsequent chapters exploring intergroup behaviour (i.e., Study 1b, see Chapter 5), and wider societal processes with an identity and group-based underpinning (i.e., Study 1c, see Chapter 6). Although separating Study 1 into sub-studies 1a, 1b, and 1c is argued to provide clearer structure, it is acknowledged that intragroup and intergroup processes are likely intertwined across all three sub-studies. The method underpinning Study 1 did not change across Study 1a, Study 1b, or Study 1c, so will be presented in the present chapter. However, it is first necessary to provide a rationale for Study 1a by illustrating the importance of intragroup processes for understanding gbMSM attitudes to PrEP.

#### **4.2: Study 1 Rationale**

#### **4.2.1: Study 1a Rationale/Aim**

The previous theoretical chapters have established that even when research has not emphasised a group-based approach, intragroup phenomena such as norms often influence gbMSM health outcomes. For instance, substance misuse is often considered normative among gbMSM, and is often associated with poor sexual health outcomes (Earnshaw et al., 2015). As gbMSM group norms have been established to influence condom use (Fishbein et al., 1993), gbMSM norms could also influence engagement with other preventative measures, such as gbMSM's decision to take PrEP. Moreover, in non-PrEP contexts, social identity research has highlighted how group identification may influence whether an individual complies with group norms (e.g., Hogg & Reid, 2006; Jetten et al., 1997; Smith & Louis, 2008), evidencing the suitability of a SIAH approach to exploring how gbMSM norms may impact on health behaviour. However, due to a lack of SIAH research exploring gbMSM attitudes to PrEP, research has yet to explore whether gbMSM attitudes to PrEP may be influenced by gbMSM norms. Therefore, as discussed in Chapter 3, Study 1a (and Studies 1b and 1c) utilised a qualitative methodology. Due to the limited research exploring a possible relationship between social identity and PrEP attitudes (Jaspal et al., 2019; Jaspal & Daramilas, 2016; Puppo et al., 2020; Williamson et al., 2019), qualitative research enables a much-needed rich and nuanced exploration of gbMSM attitudes to PrEP. Although the present research adopted a social identity underpinning, Study 1 also provided participants with the opportunity to highlight other social (e.g., meta-perceptions) and practical (e.g., sex education) measures which were deemed important to their experiences, and thus were conceptualised in Study 2 (see Chapter 7 and Chapter 8). Moreover, as PrEP is a relatively novel drug, attitudes to PrEP have changed considerably in a short period of time. Although previous qualitative research concluded PrEP stigma could be so extreme it could deter gbMSM from taking PrEP (Jaspal & Daramilas, 2016), such studies were conducted when PrEP was only available through medical trials. As PrEP was approved for usage shortly before beginning Study 1, Study 1

provides an opportunity to provide an in-depth exploration of gbMSM attitudes to PrEP that reflects the comparably increased visibility and availability of PrEP to gbMSM.

These observations led to the following Study 1a aims:

#### **4.2.2: Study 1a Aims:**

1. To explore the sexuality-related norms of the gbMSM community and consider how participants perceive these as impacting upon attitudes to PrEP (i.e., thesis aim 1).
2. To explore participants' experiences of ingroup-related stigma, and their perceptions of how these impact gbMSM's attitudes to sexuality, HIV, and PrEP (i.e., contributing to thesis aim 2).
3. To advance theoretical understandings of how groups may benefit and harm health (i.e., thesis aim 3).

#### **4.3: Study 1 Methodology & Method**

##### **4.3.1: Ontology**

Study 1 was underpinned by a critical realist ontological stance aligning with recommendations for conducting reflexive thematic analysis (Braun & Clarke, 2021). Critical realism posits the existence of three realities: the *empirical* (i.e., what humans perceive to be true), the *actual* (i.e., an objective truth), and the *real*, comprising of mechanisms and social structures that aid interpretation of reality (Vincent & O'Mahoney, 2018). Although an objective truth may exist, human experiences are subjective, and thus reality is mediated by culture and language to provide meaning (Braun & Clarke, 2021). It is argued that a critical realist approach is suitable for the present study due to it exploring a stigmatised population. Indeed, as a critical realist stance is concerned with the social structures and mechanisms that are used to interpret reality, this enables an acceptance of gbMSM experiences as their 'reality' (i.e., a subjective reality relying on human experience) while also considering how culture and social processes may underpin gbMSM experiences. Critical realist approaches have been successfully used in research

conducted with people who possess other stigmatised identities. As critical realism focusses on the interpretation of reality, it is possible to focus on how stigmatised and minoritized groups make sense of their experiences. As this thesis is concerned with gbMSM and their attitudes/behaviour, it is argued that a critical realist stance allows for interpretation of participants' experiences (as opposed to an attempt to uncover an 'objective' truth). Moreover, as critical realism often emphasises the importance of social structures and culture in meaning making (Braun & Clarke, 2021), a critical realist approach allows for the application of the SIAH framework to consider how social identity processes may act as mechanisms underpinning gbMSM's experience of reality.

#### **4.3.2: Epistemology**

A contextualist epistemological stance was taken for Study 1. As contextualism is concerned with both personal experiences and the social world surrounding participants (Braun & Clarke, 2021), it is argued that this was the most appropriate epistemology for the present study. This is because although participants were likely to convey different personal experiences (e.g., interactions with healthcare professionals), it is important to contextualise these experiences within the broader social context surrounding personal accounts. Contextualism emphasises the need to focus on the context underpinning behaviour as opposed to the context underpinning the individual who is engaging in that behaviour (Fox, 2008). This thesis is concerned with PrEP use and HIV prevention, and gbMSM behaviour is highly likely to influence such health outcomes. For example, although gbMSM are often reported to engage in sexual risk-taking, it is necessary to understand the broader social/societal context within which this behaviour occurs. Therefore, as contextualism focuses on how personal experiences can be contextualised by broader social phenomena, contextualism allows for the application of the SIAH to offer explanations for behaviour.

Although Study 1 did not adopt a discursive approach, and thus did not focus on language structure or language use as a rhetorical device (e.g., Shah & Saher, 2019), it was acknowledged that language may be used by participants as a way of redefining behaviour and could be important to understanding the broader societal context underpinning gbMSM behaviour. As contextualism focusses on the intent and purpose underpinning behaviour, it was acknowledged that labels (e.g., sex positive) may be used by participants to redefine their behaviour. As Study 1 focussed on exploring the patterns across the data corpus and not a macro level interpretation, this is considered appropriate for reflexive thematic analysis (Braun & Clarke, 2021a).

#### ***4.3.3: Participants and Design***

Twenty-one UK-based male participants ( $M_{\text{age}} = 30.71$ , age range = 19- 55 years old) were recruited through opportunity sampling. Participants were recruited through social media, including gbMSM-specific apps such as Grindr (i.e., an app used for gbMSM networking, hook-ups, and dating). Most participants identified as gay men (see Table 4.1). PrEP usage was not a prerequisite for participating in the study, with 15 participants having no experience of taking PrEP and the remaining 6 having either taken PrEP in the past or currently taking PrEP. As this thesis is concerned with gbMSM attitudes to PrEP (rather than only PrEP users' attitudes), it was not deemed necessary for participants to be PrEP users. Twenty participants were HIV negative, with one participant being diagnosed as living with HIV (LWHIV).

As PrEP, and, by extension, HIV has been heavily stigmatised (see Chapter 2), it was anticipated that discussion of sexual health and attitudes to PrEP may be sensitive for participants, leading to them wishing to discuss their opinions in private. This ruled out the use of group-based research methods such as focus groups, leading to the use of semi-structured interviews instead. An interview schedule (See Appendix A) provided a general list of topics that were explored in each interview, but participants were able to deviate from these questions if they wished. This

allowed them to talk fully and openly about their experiences in a way that was suitable/appropriate for them.

The interview schedule opened with questions which were intended to collect demographic information. Participants were then asked a series of questions about whether they perceived there to be a sense of community among gbMSM, including any positive or negative experiences they associated with the gbMSM community. Participants were then asked about their awareness of sexual health risks among gbMSM, before the interview shifted to focus on perceptions of HIV and PrEP.

Aligning with guidance from Braun and Clarke (2021), the present study did not aim to conform to strict rules of data saturation. Qualitative research approaches such as reflexive thematic analysis are heavily influenced by the interpretations of the researcher, and therefore it has been suggested that attempting to collect sufficient data for themes to ‘emerge’ directly challenges the values and epistemological assumptions of reflexive thematic analysis (Braun & Clarke, 2019).

**Table 4.1**

*Study 1 Demographic Table*

Pseudonym	Age	Sexuality	PrEP User status	Relationship status	Ethnicity
Billy	34	Gay	Non-user	Single	White
Bradley	32	Gay	Non-user	Partnered	Caucasian
David	28	Gay	Non-user	Partnered	White Scottish
Gordon	35	Gay	PrEP user	Married	Caucasian
Harry	29	Gay	Non-user	Engaged	British
Hayden	37	Gay	Non-user	Single	White British
Henry	26	Gay	Ex-user	In a relationship	White
Louis	30	Gay	Ex-user	In a relationship	White Scottish
Max	28	Gay	Non-user	Single	White Caucasian
Michael	34	Pansexual	Non-user	Single	White Scottish
Miles	21	Gay	Non-user	Single	White British
Oliver	27	Bisexual	Non-user	Single	Black in origin
Patrick	19	Gay	Non-user	Single	White British
Peter	28	Gay	PrEP user	Single	White British
Richard	26	Gay	Non-user	In a relationship	White British
Robert	55	Gay	Non-user	Civil partnered	White
Ross	26	Gay	Ex-user	Partnered	White UK
Samuel	34	Gay	Non-user	Single	White British

Simon	29	Gay	Non-user	In a relationship	White
Taariq	32	Questioning	Non-user	Single	British Indian
Wyatt	35	Gay	Ex-user	Single	White British

#### **4.3.4: Procedure**

Due to interviews being conducted during the first COVID-19 outbreak, all interviews were conducted online through Skype and Microsoft Teams. All participants were given the choice to conduct the interview with audio only or with video and audio to try and ensure participants felt as comfortable as possible. Prior to conducting each interview, participants were emailed a Participant Information Sheet and Consent Form (see Appendix B). This informed the participant of their ethical rights and that their data would be anonymised using pseudonyms. Interviews were recorded using a Dictaphone, with recordings later transcribed verbatim. Interviews ranged in time length ranging from 30 minutes and 2 seconds to 112 minutes and 5 seconds ( $M_{\text{time}} = 52$  minutes and 31 seconds).

#### **4.3.5: Position Statement**

It is important to acknowledge my personal sexual identification as a gay cisgendered man. Although I did not disclose my sexuality, participants often assumed that I identified as gbMSM. Although participants often displayed varying views and acknowledged divisions among gbMSM, it is possible that due to perceiving me as an ingroup member, participants felt comfortable disclosing deep accounts of personal experiences during the interviews. It is possible that due to perceiving the interviewer as gbMSM, participants anticipated that they would be unlikely to be judged and that I would have a good understanding of gbMSM culture. Participants often reported accounts of stigma and discrimination, including experiences of hate crime and assault. As a gay man, I have encountered similar experiences during my own life, which sometimes led to me feeling emotionally overwhelmed after interviews. My personal identification evoked strong empathy towards participants likely due to the injustices surrounding



negative experiences shared, and also due to perceiving participants as members of my own sexual orientation group. It is possible that participants may have been aware of my personal stake due to subtle cues such as emotional tone that may have indicated that I resonated with their experiences. However, it is likely that many researchers would display authentic emotions towards account of gbMSM discrimination, and thus it is unlikely that my personal identification alone explained participants willingness to share their stories.

Although most interviews led to me obtaining rich and detailed data, some interviews were more difficult than others. For example, one participant was both Muslim and gbMSM, and discussed how he experienced difficulties due to perceived normative/behavioural incompatibilities between these identities. He (along with a few other participants), were tentative about disclosing their stories. I reminded participants that they were not obliged to take part in the study, but also offered additional reassurance and adopted a casual manner to help mitigate any perceived power dynamic between them and me. Although interviewing was a highly emotive experience, I was able to debrief to my Director of Studies, which helped me to feel more comfortable.

I also recruited people who identified as English/British and people who identified as Scottish. It is possible that as someone who identifies as British, I could have been perceived as an outsider by Scottish participants. However, rather than sense any animosity, Scottish participants were very keen and patient to explain how sexual healthcare and PrEP rollout differed in Scotland compared to England.

Participants often seemed (or outwardly said) that they were happy to be participating in the study. However, it is important to note that, prior to conducting the interviews, I was unaware of the extent of contemporary HIV and PrEP stigma, although this became apparent to me during data collection. Although participants were happy to participate, several asked for reassurance that their names would not be used, due to them discussing sensitive issues such as their sex lives

and opinions on HIV and PrEP. I informed participants of standard qualitative practice to use pseudonyms, which seemed to put participants at ease. I also reminded them of other aspects of research ethics procedure, such as their right to withdraw at any point without explanation.

Another important consideration is that interviews took place online, due to this study occurring during the initial phases of the COVID-19 pandemic. This sometimes led to audio issues (e.g., poor audio quality, video feeds freezing or breaking up). To combat this, I would periodically repeat back what participants had said to me during the interview. This helped with clarification, but also showed participants I was listening to them, and often led to participants elaborating on their initial discussions. I believe that displaying active listening in this way helped participants to feel valued, which led to them feeling more comfortable, thus leading to them being more willing to share their perspectives.

One difficulty I faced during participant recruitment was a lack of racial diversity amongst my participants. I am a white, cisgender male and recruited primarily white participants. It is possible that participants of non-white ethnicities may not have felt comfortable engaging in conversations with a white researcher who may not understand the lived experiences of other ethnicities. Moreover, I found that Oliver (i.e., a black participant), did not engage in lengthy discussions, which might be explained by not feeling well represented by a white researcher.

#### **4.3.6: Analytic Strategy**

Semi-structured Interviews were analysed with theoretically-guided reflexive Thematic Analysis (TA) (e.g., Braun & Clarke, 2021). As the present research was exploring an understudied topic (i.e., the application of SIAH to gbMSM attitudes to PrEP) reflexive thematic analysis was deemed to be the most appropriate analytic method as it allows researchers to explore general trends and patterns across participants' data and is thus ideal for exploratory research. Moreover, reflexive TA was perceived as possessing advantages over other methods (e.g., Interpretive Phenomenological Analysis), due to it allowing researchers to engage in both deductive and

inductive coding, and thus being suitable for applying a theoretical underpinning to the analysis of qualitative data (Braun & Clarke, 2021). Thus, it was possible to explore how participants' accounts could be explained by theoretical processes (i.e., deductive analysis) in addition to allowing data to be interpreted based on participants' experiences (i.e., inductive analysis). This enabled the researcher to focus on exploring potential group processes underpinning attitudes to HIV and PrEP while also developing codes and themes in light of participants' discussions (e.g., education reformation).

Interviews were coded and analysed using NVivo software. Analysis was conducted in line with the six phases of reflexive TA (Braun & Clarke, 2021). First, it was necessary to become familiar with the data by listening to the audio-recordings of the interviews and reading/rereading the transcripts, making relevant initial notes of points of interest (e.g., experiences of stigma). The dataset was then fully coded using both deductive/theory-informed (e.g., "unhealthy group norms") and inductive/participant experience-informed coding ("sexual risk-taking"). Adopting a hybrid approach of both inductive and deductive coding allowed for a combination of "bottom up" (i.e., inductive) and "top down" (i.e., deductive) processes, which reflected participants' accounts whilst also exploring how the SIA/SIAH may help explain participants' experiences (i.e., the central aim of this thesis). Codes were then clustered to form initial themes, which were then iteratively developed, modified, and reviewed across several months. This ensured that themes were distinct and represented the dataset appropriately. Next, I will discuss how Study 1's themes were developed, as to provide insight into the analytic process.

#### **4.3.6.1: Study 1a Analytic Process**

Although initial analysis for Theme 1 focussed on gbMSM sexual risk-taking in a broad manner, I ultimately modified this theme so that it reflected the more specific idea of sexual risk-taking being perceived as normative among gbMSM. I considered focussing on this specific idea to be beneficial due to capturing both deductive (e.g., gbMSM norms) and inductive (e.g., sexual risk-

taking behaviours) and to reflect the thesis' aim of exploring potential group-based processes underpinning gbMSM attitudes to PrEP. Thus, I was able to consider how a SIA/SIAH approach could be applied to a PrEP context while also ensuring that experiences of participants were captured. Moreover, theme 1 "gbMSM sexual risk-taking norms", was later labelled "the social acceptability of gbMSM sexual risk-taking". Although gbMSM perceived sexual risk-taking as normative, participants still attempted to reframe their sexual risk-taking to a more widely acceptable "sex positive" status. Moreover, although sexual risk-taking was acceptable among gbMSM, it was less accepted among PrEP users, thus highlighting how the social acceptability of sexual risk-taking may differ among gbMSM. Therefore, due to the multifaceted layers of acceptability present among theme 1, it felt necessary to focus on this concept when labelling the theme.

Theme 2 ("GbMSM perceptions of a PrEP-user identity") combined codes that captured how gbMSM perceived PrEP users (e.g., "ingroup attitudes to PrEP", "PrEP as promiscuous", "legitimacy of PrEP user status"). It was necessary to split Theme 2 into two sub-themes to represent the (somewhat conceptually separated) issues of trust and stereotypical perceptions of PrEP. Indeed, participants accounts of stereotypical perceptions of PrEP (e.g., promiscuity), differed from concerns over whether gbMSM were being truthful about their PrEP status. Moreover, sub-theme 1 was initially named "trust of PrEP users" but was changed to "trust and legitimacy of PrEP users". As participants expressed difficulty in ascertaining whether PrEP users were telling the truth about being on PrEP, it was necessary to re-label this theme to reflect the difficulty in identifying legitimate PrEP users within the gbMSM community, so as to help clarify why people claiming to be PrEP users may not be trusted within the gbMSM community.

#### **4.3.6.2: Study 1b Analytic Process.**

Although the themes "The initial broad theme label of "outgroup perceptions of PrEP users", which explored how gbMSM believed that PrEP would be perceived by outgroups, was later split in two themes ("meta-perceptions of a PrEP user identity" and "service user

interactions' perceptions"), enabling exploration of two different outgroups (heterosexuals and healthcare professionals) separately (see Chapter 5). This meant that initial codes which explored outgroups in broad terms (e.g., "outgroup meta-perceptions") needed to be re-coded to better (and more specifically) capture the differences in how participants perceived heterosexuals' opinions of gbMSM and PrEP (e.g., "lack of heterosexual awareness", "heterosexual judgement of PrEP") and healthcare professionals' perceptions of gbMSM and PrEP use (e.g., "anticipated healthcare stigma", "accessing services"). Thus, by editing the thematic structure so that relevant outgroups were conceptually separated, it was possible to capture participants' perspectives in greater depth. This enabled a more detailed insight into how intergroup relationships may influence gbMSM attitudes to PrEP, as well as their attitudes towards health-related help-seeking.

#### **4.3.6.3: Study 1c Analytic Process.**

When developing the thematic structure, initial themes explored both intra- and intergroup processes simultaneously (see Chapter 6). Initial analysis often focussed on intragroup and intergroup processes as separate. For example, theme 2 was initially called "PrEP role models", which involved grouping together codes that explored both ingroup and outgroup representation (although these were divided into separate sub-themes within the theme). However, I ultimately decided that separate sub-themes exploring the benefits and limitations of ingroup and outgroup representation did not adequately capture participants' views. Moreover, although deductive coding highlighted the relevance of identity to representation (e.g., "ingroup representation"), it was also important to reflect participants' perceptions regarding the importance of the contents and nature of messages delivered by people who endorse PrEP use, leading to me developing the sub-theme "the importance of PrEP endorsement message content". This allowed for a more rigorous analysis that explored groups such as gbMSM allies that may not be perceived as ingroup or outgroup members.

As with other themes discussed in this chapter, it was sometimes necessary to re-label themes to better reflect their content. For example, “The media challenges gbMSM norms” was re-labelled as “tired stereotypes of gbMSM as promiscuous”. I felt that this label better represented participants’ feelings about how the media often portrayed gbMSM as promiscuous, which they believed to be an outdated perception based on heteronormative beliefs.

The finalised themes for Study 1a (which focus on intragroup processes) are reported in Table 4.2.

**Table 4.2**

*Study 1a Thematic Structure*

Theme	Sub-Theme
1. Perceived Social Acceptability of gbMSM Sexual-Risk Taking	1.1) Unhealthy gbMSM Norms of Sexual Risk-Taking 1.2) PrEP-use Promotes Illusory Sense of Invincibility
2. GbMSM Perceptions of a PrEP-user Identity	2.1) Trust and Legitimacy of PrEP users 2.2) PrEP Stereotypes: The Double Standard of Sexual Risk-taking

#### **4.4: Study 1a Results**

##### ***4.4.1: Theme 1: Perceived Social Acceptability of gbMSM Sexual-Risk Taking***

Participants often expressed that both themselves and other gbMSM engaged in sexually risky behaviour, which was considered normative of gbMSM. Although participants were often educated on sexual risks, this was often disregarded in favour of enacting risky sexual behaviour. Moreover, although participants engaged in sexual risk-taking, consequences of risk-taking (e.g., STIs) sometimes led to gbMSM feeling violated. Sub Theme 1.1 explored the normative aspect of gbMSM sexual risk-taking, with potential implications discussed for concealing risk as a method of enhancing minoritised group status. Sub Theme 1.2 focussed on how although a sub-group PrEP user identity could be perceived as a proactive way to protect health, PrEP sometimes created an

illusory sense of responsibility, such that PrEP users forgot that PrEP only protects against HIV and does not provide universal protection. Implications are discussed for the possible dangers of gbMSM unhealthy norms, alongside how strategies aimed at improving gbMSM's minoritised status could be seen to further threaten gbMSM health.

**4.4.1.1: Sub-theme 1.1: Unhealthy gbMSM Norms of Sexual Risk-Taking.** Participants often acknowledged engaging in risky sexual behaviour, with sexual risk-taking being perceived by them as prototypical or normative among gbMSM. However, although participants admitted to risk-taking, they often reattributed their risk-taking as being a positive behaviour to avoid stigmatised associations being made between gbMSM and promiscuity. As discussed earlier in this chapter, although a discursive approach was not adopted for Study 1, it is helpful to understand how gbMSM may reattribute their behaviour using labels such as “sex positive” to contextualise their risk-taking behaviour:

**Extract 1:**

Bradley: I feel like, I feel like broadly speaking, um I mean obviously I can't speak broadly, I only know the people that I know like in my kind of circles that I've kind of moved around in that people you know, especially you know, gay men I find that a lot of a lot of us are quite sex positive erm, well-educated on the risks we may be well educated it doesn't mean we follow through with on that knowledge.

Bradley provides an example of how participants attempted to (re)frame perceptions of their identity, suggesting that gbMSM are sex positive. This indicates Bradley perceived liberal attitudes to sex as common among gbMSM, but also suggests broader connotations attached to the importance of good sex education and decreased judgement of others' sexual behaviour

(Ivanski & Kohut, 2017). Due to the enduring stereotypical associations between gbMSM and promiscuity (e.g., Carballo-Diequez & Bauermeister, 2004; Hackl & Newman, 2015), it could be argued that redefining problematic ingroup behaviour to be perceived as more socially acceptable could be seen as a form of social creativity (i.e., selecting a dimension on which to compare the ingroup with outgroups that leads to a more favourable perception of the ingroup; Tajfel & Turner, 1979) to avoid stigmatised associations and thus improve his group's status, which in turn may lead to gbMSM sexual norms being perceived as more socially acceptable within society.

Although he described being educated about sexual risk, Bradley reported often acting incongruently to what he was taught by this education, and thus it is possible that strategies such as social creativity could further problematise gbMSM norms. For instance, if gbMSM continued to disregard risk awareness in favour of risk-taking while defining this behaviour in a way that is stigma-free (i.e., sex positive), it is possible that gbMSM may be perceived more positively within society, but it also could conceal the potential harm of gbMSM sexual risk-taking norms. Therefore, although gbMSM norms may be unhealthy (i.e., a Social Curse), redefining problematic behaviour could result in concealing gbMSM risk-taking, and therefore may exacerbate the detrimental impact of gbMSM norms.

Other participants also reattributed sexual risk-taking as a universal act as opposed to one exclusively associated with gbMSM. Moreover, when discussing participants awareness of sexual risk among gbMSM, it was noted that participants may be aware of risks, but may put aside their awareness of risks due to perceiving risk-taking as normative:

**Extract 2:**

David: I think it's easy to put that awareness to the back of your mind when you're in certain situations so whether that's consumed alcohol or drugs or a going with the flow... or peer pressure or whatever it might be I think there's it's very easy and that's just a



human thing whatever the issue might be it's easy to put it to the back of your mind and not want to feel erm not part of the gang I guess.

David's account provides an example of how participants reattributed perceptions of gbMSM sexual risk-taking. Rather than perceive sexual risk-taking as associated with gbMSM, risk-taking was suggested to be reflective of universal "*human*" behaviour. Reattributing sexual risk as a general human experience could suggest that David perceives sexual risk-taking as universally experienced, rather than solely related to gbMSM. Additionally, it is possible that by broadening perceptions of who engages in sexually risky behaviour, David minimised associations between gbMSM and risk-taking, thus avoiding reaffirming negative gbMSM stereotypes. David's account also offers insight into how risk-taking may be perceived as prototypical of gbMSM due to suggesting that he may engage in risk-taking to feel accepted by other gbMSM. This indicates that gbMSM identification may have a complicated relationship with wellbeing, as although identification and perceived prototypicality are often associated with increased wellbeing (Hoffmann et al., 2020), gbMSM prototypicality could result in increased sexual risk-taking, and thus may result in negative consequences for gbMSM health. David also provides further support for the role of alcohol and substance misuse hindering safe sex practices in gbMSM. This may suggest that the disinhibition caused by alcohol and substance misuse may lead to disregarding awareness in favour of risk, supporting substance misuse is normative and a possible explanation for low condom use among gbMSM (e.g., Dentato et al., 2013; Earnshaw et al., 2015).

Discussion of risk-taking often involved concealing or minimising the role of participants' gbMSM identity, which was likely attributed to minimising stereotypical and stigmatised perceptions of gbMSM. However, one participant who was LWHIV discussed that gbMSM risk-taking behaviour led to him having to conceal his LWHIV status:

**Extract 3:**

Hayden: I had my [HIV positive] status on Grindr, and I had to take it off because I was getting loads of poz chasers [HIV-negative people who ask HIV-positive people to infect them with HIV]... from all over the world, if they could have my toxic load.

Interviewer: How does that make you feel?

Hayden: Do you know what it's really funny actually someone told me it was gonna happen so my friend [name], "Have you had the poz chasers on Grindr yet?", and he was like "You wait" and literally the day after, erm do you know what? to start I thought it was funny because I was like this is ridiculous... I was just this is really unhealthy and also, I can't pass it on [due to the medication I take] so it's offensive surely, they know that.

Although disclosure of a LWHIV identity is often associated with stigma, due to certain gbMSM seeking out HIV infection (i.e., "poz-chasers"), Hayden felt the need to hide his LWHIV online out of necessity. Although the social support provided by friends likely acted as a buffer against the harmful effects of his online experiences (i.e., acting as a Social Cure; e.g., Haslam et al., 2016), presentations of HIV as 'toxic' perpetuates highly stigmatised and negative perceptions of those LWHIV. Even though Hayden was not negatively impacted by his experience, it is important to consider the wider implications of concealing a LWHIV identity. LWHIV disclosure is often reported as challenging, and Hayden's displaying of his HIV status could have resulted in reducing the fears that others LWHIV may have about disclosing their own HIV status. Moreover, it could be suggested that disclosing that one is LWHIV promotes visibility of those LWHIV, and therefore could help remove the shame of belonging to this identity, which is traditionally highly stigmatised. Therefore, by having to remove his LWHIV status from his Grindr biography due to 'poz-chasers', it is argued that this could impact broader communities (i.e., others LWHIV and gbMSM), indicating the potential for wider social harm due to interactions with 'poz-chasers'.

Thus, although Hayden disclosing his HIV status could be argued to educate and help minimise risks of HIV transmission, it is possible that some gbMSM risk-taking behaviours could undermine efforts to be transparent with a LWHIV status.

**4.4.1.2: Sub-Theme 1.2: PrEP-use Promotes Illusory Sense of Invincibility.** PrEP use is an effective method of reducing HIV transmission. However, gbMSM often highlighted that PrEP users perceived PrEP to provide an illusory sense of invincibility, such that PrEP users sometimes assumed PrEP alone was sufficient to protect themselves during sexual encounters. Although Sub-theme 1.1 highlighted that gbMSM were often aware of the HIV implications of their sexual risk-taking, it could be suggested that due to PrEP protecting against HIV, participants lack awareness and consideration of the risks they face regarding other STIs.

For instance, participants were asked whether they would consider taking PrEP. This often led to discussions of how gbMSM perceived PrEP-users to overemphasise the protection provided by PrEP (i.e., forgetting that PrEP only protects against HIV and not other STIs):

**Extract 4:**

Interviewer: Would you [take PrEP]?

Samuel: Well I probably well I probably should, I'm in two minds about it it's a bit of a catch 22. I think well if I was on PrEP I might make some less wise [sexual] decisions... but equally I might do that anyway even without being on PrEP... the thing with PrEP is and especially kind of some of my younger friends who are kind of using PrEP they see it as this miracle drug kind of an almost as their kind of get out of jail free card 'cus obviously the PrEP is just for HIV... for HIV it's lovely but for other issues [STIs] but I suppose that those kind of infections because they're treatable, they don't really, kind of, they're not such a concern.

Although Samuel was aware PrEP use may be beneficial, he also acknowledged that PrEP use may increase his own sexual risk-taking, highlighting that the protection obtained from PrEP could be perceived to increase risky sexual behaviour. It is suggested that even if PrEP use did increase risk-taking behaviour, (i.e., risk-compensation), PrEP use still protects against HIV, and therefore is helpful (Calabrese et al., 2017; Williamson et al., 2019). As the previous sub-theme highlighted that sexual risk-taking is arguably normative among gbMSM, if gbMSM are likely to engage in sexual risk-taking regardless of PrEP status, PrEP use could help minimise risks during sexual encounters.

Samuel noted that younger gbMSM often overemphasise the protection of PrEP, but also displays awareness that other STIs are often treatable, which could explain why gbMSM do not equally emphasise protection against HIV and other STIs. This could suggest that due to HIV's incurable status (and possibly the associated stigma of a LWHIV identity), gbMSM prioritise exposure to HIV opposed to other STIs. However, Samuel's account does not discuss how other STI's (e.g., herpes) are also incurable, or that STI's are widely reported to be developing resistance to treatment (WHO,2016). This indicates that even gbMSM such as Samuel who display awareness of PrEP's limited protection may neglect the importance of protecting against other STI's.

Other participants displayed awareness of PrEP-users not protecting themselves against other STI's, and shared how inaccurate perceptions of PrEP could result in negative consequences to PrEP users:

**Extract 5:**

Louis: A friend who's very promiscuous is on PrEP had a positive test for syphilis and he was inconsolable because he'd caught something, although he had taken all the risks he

reacted really badly to catching something from someone else and felt quite violated by it, but equally it was his decision to not use a condom or use protection, so it kinda is kind of a rock and a hard place.

Louis' extract offers further reflects accounts of PrEP users failing to account for the risk of STIs. Although Louis discussed how his friend had engaged in risky sexual behaviour (i.e., condomless sex), his friend still felt "*violated*" by contracting syphilis. It is possible that Louis' friend perceived his PrEP-user identity as a proactive method to protect his own and others' sexual health, thus leading to him feeling violated that PrEP had not provided him with universal protection. If gbMSM perceive PrEP as a sole method of sexual protection, they could risk both their own and others' sexual health, thus highlighting that the belief that PrEP provides universal protection is misguided and potentially dangerous. It is likely that Louis' friend also felt violated as he had taken PrEP to protect himself and his partner, yet his partner had not protected him, highlighting the lack of a norm of protective reciprocity.

One participant who was a PrEP user discussed how PrEP was beneficial to his mental health because it enabled him to stop feeling the HIV-related anxiety associated with unsafe sexual practices:

**Extract 6:**

Interviewer: Have you ever had conversations with others about PrEP?

Gordon: Yes absolutely I'm an advocate for it I will tell anyone and everyone who isn't taking it to take it and explain the mental health benefits a bit more than anything else... it's the whole thing of going for a health check-up and not being afraid of, not being afraid to go for check-up and not being afraid of getting your results back and also it means that

you know if you did that whole thing of waking up the next morning if you've been out and you've had a skinful and you've gone home with someone and you wake up the next morning and you think to yourself "did I use a condom or not?" because it takes away that sense of shame and self-loathing that you can sometimes have.

Unlike other participants who acknowledged unsafe sex as an unhealthy behaviour, Gordon discussed how PrEP was beneficial to his mental health, resulting in him becoming an "advocate" for PrEP. Gordon suggested that PrEP helped remove the fear associated with sexual health testing, which may relate to fear of learning that one has HIV, rather than learning that one has other STIs. This supports the argument that, although stigmatised, STIs are usually curable, whereas HIV is lifelong, and thus the stigma attached to LWHIV is far greater than that of a curable STI. Moreover, rather than PrEP making Gordon feel invincible to other STIs, he discussed seeing PrEP as a key form of protection if he goes out drinking and his lessened inhibitions result in him acting in a risky manner, linking back to the previous sub-theme. As Gordon is aware that he is engaging in risky sexual behaviour, and that these acts are accepted as normative, this may lead to PrEP being perceived as a method to improve both his own and his partner's safety. This could suggest that for gbMSM such as Gordon, the primary concern is avoiding HIV infection. This can be seen when he states that taking PrEP reduces the amount of shame he experiences. This could indicate that the risk of HIV is the greatest contributor to shame and that other STIs are not perceived as stigmatising to the same extent. If HIV is indeed the focal point of gbMSM sexual health, this could explain why an illusory sense of invincibility [think about how PrEP is presented, and how this protection is often second hand] is present, as other STIs could be seen as less threatening (both to health and to identity).

In summary, participants often discussed how PrEP use can sometimes lead to an underemphasis of protection against non-HIV related risks. This was perceived by both non-PrEP

users and those who had experience with PrEP. It is possible that, due to the highly stigmatised and lifelong duration of HIV, the gbMSM community place greater focus on protection from HIV than from other STIs. This can be seen as impactful to the community in several ways. First, non-PrEP using gbMSM may judge PrEP using gbMSM, believing that they are overly promiscuous and may not be aware of the risks of other STIs. Second, PrEP users may experience intense surprise and shame when they are diagnosed with a STI due to them focussing on avoiding HIV infection and ignoring other sexual risks. Finally, although this illusory sense of invincibility can be seen as a potentially unhealthy norm in the community, it is likely that the benefits of PrEP (both physical and mental) could override feelings of stigma and shame in some gbMSM.

#### ***4.4.2: Theme 2: gbMSM Perceptions of a PrEP-user Identity***

Participants often discussed nuanced depictions of PrEP use. For instance, although gbMSM often highlighted the benefits of PrEP, they also often associated PrEP with promiscuous and risky sexual behaviour. Moreover, PrEP was observed as an issue of intragroup trust, as will be discussed in Sub-theme 2.1.

**4.4.2.1: Sub-Theme 2.1: Trust and Legitimacy of PrEP users.** Participants demonstrated varying amounts of trust towards prospective sexual partners who stated that they were PrEP users. This presented itself as scepticism of others' HIV negative status and PrEP user status. One participant focussed on how PrEP use could be perceived as evidence that one is distrusting of one's sexual partners. Other participants discussed how they felt that when looking for prospective sexual partners, they would be more inclined to interact with PrEP users due to having an increased level of trust in them, as well as assuming that they were sexually responsible people. These varying accounts demonstrate that PrEP use can be seen to both increase and decrease feelings of trust amongst gbMSM members, with the latter indicating that PrEP is a source of intragroup suspicion in the gbMSM community which could lead to intragroup distrust and conflict.

Several participants discussed how it may be difficult to trust other gbMSM members' statements regarding their sexual health:

**Extract 7:**

Samuel: It's tricky because I could say whatever I wanted just because I say I'm [HIV] negative doesn't mean I'm negative it doesn't mean anyone's negative so for that I just don't I'm not sure I think I don't know what why kind of Grindr added that like level on [i.e., the ability for users to display their PrEP user status on their profile]. I don't know whether it was to try and promote kind of "yes some people are [HIV] positive [but have an] undetectable [viral load]" ... again just because somebody says they're on PrEP doesn't mean they are on PrEP.

Samuel discussed that although online hook-up apps such as Grindr provide the opportunity to disclose HIV and PrEP status, gbMSM may not be truthful, so that they may appear more desirable to sexual partners (i.e., to disassociate themselves from the stigma of HIV). If a prospective sexual partner were to lie about being on PrEP, it is possible that they could have previously contracted HIV. Moreover, it is possible to suggest that a 'PrEP user' status could be seen as desirable among gbMSM, leading to gbMSM lying about their PrEP status to appear more sexually desirable, and possibly more prototypical of gbMSM. Although PrEP users are protected against HIV transmission, Samuel's account has large implications for gbMSM not using PrEP (i.e., where HIV transmission could occur), and the wider implications of PrEP user legitimacy will be discussed later in the discussion section of this chapter.

Samuel also acknowledges that people may lie about their HIV status because of the stigma surrounding HIV. However, it is possible that if someone LWHIV is not undetectable (i.e.,



they can still pass on the virus), they could infect others with HIV. If they are aware of their HIV positive status, then they could be legally prosecuted for engaging in reckless HIV transmission. When considering the reasons behind why an individual may lie about their HIV or PrEP status, it is possible to argue that they are trying to conceal elements of themselves that may be considered undesirable or stigmatised (e.g., a diagnosis of HIV), and are instead trying to present themselves as being desirable to the group (i.e., gbMSM). From this perspective, it is possible that PrEP use is seen as a behaviour that evokes responsibility, and thus is socially desirable. This is a stark contrast from discussions of gbMSM group norms present in Theme 1, where ingroup risky sexual behaviour was assumed and broadly accepted by gbMSM members. Although laws exist to protect people against reckless HIV transmission in the UK (Heredia & Goldklank, 2021), research highlights that men LWHIV may opt to not disclose their status for reasons such as them perceiving it as being nobody's business, or because of fear of rejection (Gorbach et al., 2004). This is also consistent with research on how individuals may conceal their LWHIV identity due to feelings of shame or stigma (Van Damme-Ostapowicz et al., 2015).

Other participants were found to support the ideas presented by Samuel in Extract 7 about distrust surrounding others' PrEP status:

**Extract 8:**

Billy: ...Unfortunately in the gay community 9 times out of 10 if you if you go onto Grindr and the guys says you know 'I'm looking for sex' they will literally they will just tell you that they're clean that they're safe that they're on PrEP they will lie to you because they know that's what you want to hear and if you go if they say 'well I told you I was clean and you don't ask for any evidence, it's your fault if you end up with anything because you shouldn't take it on face value'.

Billy's account echoes Samuel's, further suggesting that PrEP use may be associated with a sense of responsibility and be perceived by gbMSM as being socially desirable. As Billy suggests that lying about PrEP status is common, this indicates he believes gbMSM lying to appear like a "clean" and more desirable sexual partner (i.e., free of HIV or other STIs), is normative among gbMSM. Billy further emphasises his perception of this behaviour as normative by suggesting that if gbMSM do not acquire evidence of their partner's 'clean' status then that it is their fault, as opposed to the fault of the person lying about their sexual health status. The hostility and victim-blaming aspects of this approach could be explained by an unspoken gbMSM norm that people's assertions about their sexual health should not be trusted, leading to hostility and victim blaming when questioned (by Billy) at a later date. Billy's account is reminiscent of discussions in Theme 1, highlighting gbMSM as potentially upholding unhealthy norms that may have negative health consequences for prospective sexual partners.

Although many participants indicated PrEP use as a source of intragroup distrust, some participants perceived PrEP use differently, and associated PrEP use with health-orientated behaviour and maturity:

**Extract 9:**

Harry: I probably would be more likely to interact with someone that says that they are on PrEP because at least you know that they are you know aware of health risks and they're looking after themselves and I think it shows a level of maturity and it's it almost kind of a, it's quite a nice thing to think 'oh you know they're you know taking that to look after themselves'.

Harry's account emphasises PrEP use as a proactive sign of protection, leading to him perceiving PrEP users in a positive light. As Harry perceived PrEP use as a sign of maturity, it is possible that Harry associated PrEP use as a health promoting action that indicates a willingness to proactively protect an individual's (and by extension their sexual partners) sexual health. It is possible that unlike other participants, Harry had not experienced encounters with individuals who had lied about their PrEP status, leading to positive perceptions of PrEP users that were focussed on health as opposed to the legitimacy of a potential partners PrEP status. Alternatively, it is possible that Harry upheld strong health-orientated norms, which could have been perceived as either a part of his gbMSM identity or coexist as a separate identity. Indeed, it is possible that some gbMSM may have additional identities (e.g., health-orientated) which may become salient, and result in interpreting scenarios differently. This could suggest that fostering health-orientated attitudes to PrEP (e.g., through public health campaigns) may be helpful in improving gbMSM attitudes to PrEP.

In summary, trust (or lack thereof) could be argued to be a key component of gbMSM attitudes to PrEP. Some participants felt it was difficult to trust PrEP users and questioned the legitimacy of their PrEP user status. However, a small number of participants were not distrusting of PrEP status, and instead emphasised how they perceived PrEP use to signify a proactive approach to protect sexual health. Attempting to foster health-orientated perceptions of PrEP may be beneficial for improving attitudes to PrEP. Additionally, more responsible and appropriate PrEP use (i.e., with condoms), could lead to more positive perceptions of PrEP and greater awareness of healthy sexual behaviour within the gbMSM community.

#### **4.4.2.2: Sub-Theme 2.2: PrEP Stereotypes: The Double Standard of Sexual Risk-Taking.**

Theme 1 explored the frequent (and often unsafe) sexual behaviour within the gbMSM community. Although sexual risk-taking was acknowledged by participants as normative among gbMSM, it was noted that risk-taking was often concealed. However, participants often displayed judgement towards PrEP users engaging in liberal attitudes to sex, creating an apparent double

standard. Sub-Theme 2.2 explored how even though PrEP usage acts as a protective behaviour, acknowledging PrEP use explicitly marked their position as a sexual risk-taker, thereby leading to them being stigmatised by non-PrEP using gbMSM.

This double standard often led to PrEP users being described in a stereotypical manner, with participants often suggesting that PrEP use was associated with promiscuity:

**Extract 10:**

David: There's that perception that if you need to take PrEP then you're a bit of a whore...or you're doing things that you're not meant to be doing so yeah I think until PrEP is has become more embedded in the way that we look after ourselves as gay men particularly and then that stigma's always going to be there on the fringes I think it's a really hard thing to shift.

David discussed how PrEP use was often associated with stereotypical perceptions of promiscuity. This is a direct contrast to Theme 1, as liberal attitudes to sex were reported as normative among gbMSM. This could suggest that although liberal attitudes to sex are normative for gbMSM, if gbMSM are also PrEP users, this may lead to ingroup stigmatisation. This is further supported through David suggesting PrEP users are “doing things that you're not meant to be doing”, highlighting that, to some extent, PrEP use may be associated with behaviour that challenges the descriptive norms of gbMSM. Alternatively, it is possible that the seemingly double standard between the ideas discussed in Theme 1 and Theme 2 could be explained by gbMSM fearing how they will be perceived by outgroups. As gbMSM are often stigmatised and associated with promiscuity, it is possible that gbMSM may be concerned that PrEP users (and negative perceptions of PrEP users) may be associated with gbMSM generally. This could mean that

gbMSM who risk the group's image by using PrEP experience ingroup stigma (i.e., Social Curse processes), as highlighted by research exploring how violating ingroup norms can lead to social isolation and persecution (Kellezi & Reicher, 2012). As David suggests that PrEP use is embedded into gbMSM culture, it is possible that it would be beneficial for gbMSM norms to shift to become more focussed on PrEP (i.e., alongside condoms) as a prevention tool, and reduce negative stereotypes of PrEP users (e.g., promiscuous).

Other participants supported the perception that PrEP is associated with promiscuity, with discussion regarding the sexual connotations of PrEP use and how this might influence perceptions of PrEP users:

**Extract 11:**

Billy: I can completely understand that because I think people there are factions of the community where there are people who literally just, you know, they'll never use a condom or whatever. It is, I'm sure it's the same, in the straight community and I think it's it is a stigma because people go 'if you're on PrEP it means you're a bit of a...', it sounds horrible, but you're a bit of a whore, and all that kind of stuff it's like if you're taking this are you going out you know splashing it around every all the time it's like that isn't the case people just wanna protect themselves but people see people taking a sexual drug and they just go straight away to 'you must be sleeping with the town'.

Billy discusses how in the gbMSM community, there are different "factions", and how some "never use a condom", but this is likely the same among heterosexuals. For Billy, those who engage in condomless sex in the gbMSM community are a minority and are thus not perceived as prototypical or as engaging in normative behaviours. Billy also demonstrates an awareness of PrEP

stigma, recognising David's account of PrEP users as promiscuous ("If you're on PrEP it means you're a bit of a whore"). However, Billy makes an important distinction that although promiscuity is societally associated with PrEP, he sees this as untrue, and believes that the intentions of PrEP users are to protect themselves, suggesting that he perceives PrEP users to be health orientated. Furthermore, Billy makes the connection between people seeing someone taking a "sexual drug" and assuming "you must be sleeping with the town". Again, this interesting to discuss in relation to Theme 1, where overtly sexual behaviour was perceived as normative. It is possible that developing a PrEP user identity solidifies and explicitly demonstrates a gbMSM member's position as promiscuous, whereas the sexual risk taking discussed in Theme 1 could be seen as more subtle. Although liberal sexual attitudes were widely reported and seemed to be largely accepted (even when they involved unhealthy sexual risk taking), when someone is seen to use PrEP, this behaviour is no longer normative and is seen as promiscuous. This has implications for PrEP uptake, as if a PrEP user identity is stigmatised, this could lead to gbMSM members not wanting to take PrEP to avoid violating gbMSM norms, which is supported by non-gbMSM research exploring norm violation as a Social Curse (Kellezi & Reicher, 2012). Moreover, it could suggest that attitudes to PrEP are context specific, with individuals seeing PrEP as socially desirable when looking for sexual encounters but vilifying it in non-sexual settings.

Another participant also displayed judgemental views of PrEP usage:

**Extract 12:**

Samuel: I suppose if you're on PrEP you're on it for a reason. So I suppose if you were in a committed relationship then if so, I suppose if your partner was HIV undetectable and you took PrEP then it that's like a double kind of safety I suppose, but if people are using it just for that kind of lifestyle choices that it's inevitable that people are going to link [PrEP] in with kind of sluts and sluttish behaviour.

Samuel discusses how his opinion of PrEP use is conditional on the context in which it is used. Specifically, he perceives it as acceptable if the user is in a committed relationship with a partner who has HIV but is undetectable, as it would provide “a double kind of safety”. Although exact guidance varies, at the time of writing, PrEP is largely perceived as inappropriate and unnecessary for serodiscordant couples (i.e., a relationship where one partner is HIV-positive and the other is HIV-negative; Sun et al., 2020). This is due to advancements in understanding of HIV, including knowledge that if an HIV positive individual takes ART medication, their viral load is likely to become undetectable, and thus they cannot transmit the virus. Samuel’s comment thus indicates that there is a need for better public health messaging so that people are aware that PrEP is not intended for use in serodiscordant relationships where the HIV-positive partner is on ART medication.

Samuel’s stricter approach of who should take PrEP could have implications for PrEP usage. If Samuel perceives PrEP use is only valid in serodiscordant couples, this may lead to gbMSM perceiving PrEP use beyond these circumstances as stigmatised, which in turn may impact the uptake of PrEP. This could suggest that ingroup stigmatisation of PrEP use could diminish perceptions of PrEP as a legitimate tool for HIV prevention and could result in minimising the impact PrEP use could have on reducing HIV transmission. As previously highlighted, serodiscordant couples are not considered an appropriate use of PrEP, and therefore this indicates that gbMSM awareness of PrEP needs to be increased.

This idea of ‘appropriate’ and ‘inappropriate’ use of PrEP creates another double standard whereby PrEP’s acceptability is dependent upon the context (or perceived context) in which it is used. When PrEP is used by a member of a monogamous serodiscordant couple, it is seen as evidence of the person being responsible. However, if PrEP is used by individuals who have

frequent casual sexual partners (i.e., its intended purpose), it is seen as something to be stigmatised and frowned upon.

Unsurprisingly, some participants reported conflicting feelings surrounding their opinion of PrEP users:

**Extract 13:**

Interviewer: How would you feel if you knew people that were taking PrEP?

Michael: That's the interesting thing isn't it because I would even I would be okay cool if they're taking PrEP – wonderful, responsible - but there's this strange prevailing attitude of kind of 'why take an umbrella unless you think you're going to get wet?', even when I look, when I think about it now there's a tiny remnant of that and I realise it's stupid, I realise that it is idiotic because I could, I would be one of those people taking it for that reason not because it because it's a preventative.

Some participants such as Michael presented mixed feelings towards PrEP, and often weighed up their perceptions of PrEP during the interview. One view he holds is “why take an umbrella unless you think you're going to get wet?”, therefore suggesting that PrEP users are anticipating engaging in risky behaviour. It is likely that this is a judgement of those who engage in PrEP use, which reflects other extracts on PrEP use's perceived relationship with promiscuity. However, due to the elevated risk of HIV exposure associated with the gbMSM community, using PrEP as an “umbrella” could be deemed sensible, as it offers protection from the risk of HIV exposure. However, the need for PrEP could indicate an awareness of increased risk, which other extracts have demonstrated to be stigmatised in the gbMSM community. If it was possible to shift normative values so that taking PrEP as a preventative was seen as a responsible choice, this could



lead to an uptake of PrEP, and thus a decrease in HIV transmission. Additionally, Michael considers how he is also aware that this judgement is “idiotic”, and that people take PrEP because “it’s a preventative”. This suggests that, for some members of the gbMSM community, it is hard to dismiss the negative perceptions of PrEP users, even when they are aware of the benefits of PrEP. As previously discussed, it is possible that PrEP user status changes how gbMSM members view sexual behaviour, from being normative to being stigmatised, with PrEP use thus acting as a Social Curse through violation of ingroup norms. As such, it is necessary that more is done to highlight how normative processes of the gbMSM community influence attitudes to PrEP. In turn, this could result in less stigmatisation of PrEP, and also foster or create positive attitudes towards PrEP.

#### **4.5: Study 1a Interim Discussion**

Study 1 aimed to explore group-based processes that may underpin gbMSM attitudes to PrEP. This involved three aims: i) To explore the sexuality-related norms of the gbMSM community and consider how participants perceive these as impacting upon attitudes to PrEP (i.e., thesis aim 1), ii) To explore participants’ experiences of ingroup-related stigma, and their perceptions of how these impact gbMSM’s attitudes to sexuality, HIV, and PrEP (i.e., contributing to thesis aim 2), and iii) To advance theoretical understandings of how groups may benefit and harm health (i.e., thesis aim 3). Study 1’s findings are presented across multiple chapters to provide structure and to allow each chapter to have a specific focus (e.g., intragroup processes). As Study 1b (see Chapter 5) and Study 1c (see Chapter 6) will illustrate, group-based processes underpinning gbMSM attitudes to PrEP often intertwine (i.e., intragroup and intergroup processes often coexist), thus, this thesis shall fully address the aims of Study 1 with a detailed discussion at the end of Study 1c (see Chapter 6). The present chapter will now provide a summary of Study 1a’s findings before arguing for the need to consider how intragroup processes may influence gbMSM attitudes to PrEP.

Although previous studies have considered the importance of identity for gbMSM’s attitudes to PrEP (Jaspal et al., 2019; Jaspal & Daramilas, 2016; Puppo et al., 2020; Williamson et

al., 2019), group-based processes have often been neglected. By applying the SIA/SIAH to the topic of gbMSM attitudes to PrEP, Study 1a built upon previous research to highlight how gbMSM sexual health norms and shared beliefs could be detrimental to sexual health. Therefore, although gbMSM identification could be perceived as a helpful way in which gbMSM can cope with their minority status and societal stigmatisation, it is possible that the group norms underpinning gbMSM group membership may act as a Social Curse, such that group identification may result in adherence to norms that are detrimental to health.

Theme 1's findings indicate that gbMSM often perceive sexual risk-taking as normative. Although gbMSM were willing to admit engaging in sexual risk-taking, participants often reattributed their behaviour in a way that led to more socially desirable perceptions of the described risk-taking behaviour. Due to gbMSM being a minoritized group, this could be perceived as a form of social creativity to enhance outgroup perceptions of gbMSM to reduce harmful associations between gbMSM and promiscuity, reframing a negative gbMSM identity as "sex-positive". Although social creativity may offer gbMSM a method of reattributing their minority status (thus appearing more socially acceptable), it is also possible that this could result in gbMSM concealing the extent of their sexual risk-taking. This is particularly problematic, as participants reported engaging in sexual risk-taking regardless of their risk awareness. Thus, it could be argued that social creativity may act as a Social Curse, such that gbMSM risk-taking is concealed or underestimated. The fact that participants often displayed awareness of sex education yet chose to disregard their knowledge of safe sex suggests that current strategies to educate gbMSM (Fishbein et al., 1993; Abubakari et al., 2021), are sub-optimal for enacting behavioural change. This may suggest that future strategies aimed at improving gbMSM sexual health need to be considerate of group norms and culture, which will be further explored later in this thesis (see Chapter 6 and Chapter 9).

In addition to gbMSM norms, it was often reported that gbMSM perceived PrEP-users to hold a shared belief that PrEP promoted an illusory sense of responsibility. It is possible that PrEP-

users may perceive their PrEP-status as providing them with universal protection, forgetting that PrEP use only protects against HIV. The stigmatised identity of LWHIV may explain why gbMSM might focus solely on the risks posed by HIV, rather than by other STIs. Indeed, due to the stigmatised associations between gbMSM and HIV (Tan et al., 2020), gbMSM may focus on HIV's risks due to perceiving LWHIV as an incurable and stigmatised identity, thus leading to efforts to distance gbMSM from this association.

Theme 2's findings indicate gbMSM held complex depictions of PrEP users. It was noted that gbMSM may lie about their PrEP status online due to PrEP users being perceived as a proactive sub-group identity (i.e., gbMSM may say they use PrEP to appear more sexually responsible). This led to participants often questioning the legitimacy of a PrEP user identity, indicating that gbMSM were aware a PrEP-user identity could be wielded (sometimes falsely) to manipulate other gbMSM, indicating wider intragroup distrust. Moreover, although Theme 1's findings indicated that sexual risk-taking was normative among gbMSM, Theme 2's findings presented a double standard, whereby PrEP users were often perceived negatively for sexual risk-taking. It is possible that due to stereotyped associations between gbMSM, PrEP, and promiscuity, gbMSM displayed judgement towards PrEP users out of fear that PrEP use might further perpetuate perceptions of gbMSM as promiscuous. Although previous research has highlighted stigma surrounding PrEP, the present research extends understandings of stigma processes by suggesting that gbMSM may stigmatise PrEP use to protect their (already minoritised) identity.

Study 1a built upon previous research to highlight the role of group-based processes such as norms, and discussed how these could have detrimental effects on gbMSM sexual health. Although perceptions of PrEP were reported to be far more nuanced than previously suggested, it is argued that negative gbMSM perceptions of PrEP may be tied to fear that PrEP usage could exacerbate stigmatised associations between gbMSM and promiscuity. However, as argued in Chapter 2, significant stigma experienced by gbMSM (particularly in HIV and PrEP contexts) comes from other groups, such as healthcare professionals. As current research has not explored how the

relationship between gbMSM and relevant outgroups (e.g., heterosexuals and healthcare professionals) may be understood through intergroup processes, it is necessary to turn to Study 1b, which provides an exploration and discussion of how intergroup processes can be perceived as integral to understanding gbMSM attitudes to PrEP.

## **Chapter 5. Study 1b: A Qualitative Exploration of The Role of Intergroup Processes in Attitudes Towards Sex and PrEP in Gay Men, Bisexual Men, and Men Who Have Sex with Men (GbMSM)**

### **5.1: Introduction/Rationale**

Study 1a provided an insight into intragroup-based processes that may influence gbMSM attitudes to PrEP. However, gbMSM's status as a minority group and association with HIV has often been reported to result in intergroup hostility, particularly from healthcare professionals (see Chapter 2). Although previous research has considered the role of identity in PrEP use (Williamson et al., 2019), theoretical approaches (such as Social Representations Theory) lack a specific focus on intergroup processes, and fail to capture the complex relationships between groups due to a broader interest in how identity may be represented in society (Howarth, 2006). Although this research might have been useful, the intergroup dynamic between gbMSM and relevant outgroups such as heterosexuals and healthcare professionals would likely be highly relevant to gbMSM attitudes to PrEP. For example, due to PrEP being a medical tool, it is necessary to engage with healthcare professionals in a clinic to receive it. The present chapter introduces Study 1b, a qualitative exploration of intergroup processes underpinning gbMSM attitudes to PrEP.

As this thesis has emphasised (see Chapter 2) perceptions of gbMSM in society have historically been poor. Although societal attitudes to gbMSM have improved, gbMSM still widely report experiencing stigma and discrimination (Coulter-Thompson et al., 2023; Doyle & Molix, 2014; Harper & Schneider, 2003; Warren et al., 2022a; Woodford et al., 2014). Moreover, since the HIV/AIDS Crisis of the 1980s/90s, gbMSM have been culturally tied to HIV, with societal perceptions of HIV as a 'gay disease' (Tan et al., 2020), which has also led to perceptions of PrEP as a drug for gay men (Hascher et al., 2023) and stigmatisation of PrEP, with previous research suggested that attitudes to gay men may mediate attitudes to PrEP (Jaspal et al., 2019). However, this latter study has not provided an in-depth exploration to the potential intergroup processes and relationships influencing gbMSM perceptions of PrEP.

Research on HIV and PrEP has emphasised the importance of eradicating stigma experienced by gbMSM, and reducing the harmful associations between gbMSM, HIV, and PrEP. However, as contemporary stigma of gbMSM, HIV, and PrEP have not been explored in-depth, it is difficult to determine how stigma can be addressed.

The relationship between gbMSM and healthcare professionals has a problematised historical background, stemming from mistreatment of gbMSM during the HIV/AIDS Crisis of the 1980s/90s and creating mistrust. These issues persist, although knowledge surrounding HIV and AIDS has dramatically improved. For example, older gay men reported their sexuality acted as a barrier to healthcare and felt the need to conceal their sexual identity (Kia et al., 2022). As PrEP-screening relies on gbMSM disclosing the type and frequency of their sexual activity, traditional strategies of personal mobility (i.e., ‘passing’) can be argued as inappropriate for gbMSM aiming to access PrEP. Given the important roles played by clinics and healthcare professionals in PrEP, it is important to understand how fraught intergroup relationships could influence gbMSM’s perceptions of PrEP.

The methods and procedure for Study 1 was identical across all three studies (see Chapter 4). Table 5.1 reports the themes and the thematic structure of Study 1b.

**Table 5.1**

*Study 1b Thematic Structure.*

Theme	Sub-Themes
1. Meta-Perceptions of a PrEP User Identity	1.1) Perceived Heterosexual awareness and judgement of PrEP. 1.2) Heterosexual Outgroup Stigma: Sex and Promiscuity
2. Service User Interactions Perceptions	2.1) Anticipated and experienced Stigma of Service Users 2.2) Service Workers’ Familiarity With gbMSM: Social Cure and Curse Interplay 2.3) Outgroup Experiences Reduce Anticipated Stigma.

**5.2: Study 1b Results**

**5.2.1: Theme 1: Meta-Perceptions of a PrEP User Identity**

Theme 1 explores how although participants often perceived heterosexual awareness of PrEP to be low, they also anticipated that heterosexuals would perceive PrEP (and, by association, gbMSM) poorly. Indeed, it was often suggested that heterosexuals would perceive PrEP use as encouraging sexual risk-taking, which was also believed to be tied to heterosexual perceptions of gbMSM as promiscuous.

Theme 1' also explored how participants often used meta-stereotypes (i.e., an individual's beliefs about how an outgroup stereotypes their ingroup; Kim & Oe, 2009) and meta-perceptions (i.e., an individual's beliefs about how an outgroup perceives their ingroup; Carlson & Barranti, 2016) to make sense of how heterosexuals may perceive PrEP use. Implications for how anticipated stigma from heterosexuals towards gbMSM and PrEP are discussed, as well as exploration of how anticipated stigma may influence gbMSM attitudes to PrEP (e.g., perceiving outgroups to hold stigmatised perceptions of PrEP may lead to PrEP appearing less desirable to gbMSM, and thus may be a potential barrier to PrEP uptake).

#### **5.2.1.1: Sub-Theme 1.1 Anticipating Heterosexual Perceptions of PrEP.**

Participants often assumed that heterosexuals would be unfamiliar with PrEP:

##### **Extract 1:**

Interviewer: So, what about if you were to ask a straight person what they thought of PrEP?

Henry: I don't think half of them would actually know what it is. Yeah, it's not something that's prevalent in their community, PrEP, I don't think I've ever heard a straight person say they're on PrEP or have heard of PrEP to be honest. Even the straight ones on online dating apps have never heard of it.

Henry discussed how PrEP use is not common among heterosexuals, which could explain lack of awareness of PrEP. This suggests that PrEP is likely perceived by gbMSM as a gbMSM-specific drug, supporting claims of PrEP being embedded into gbMSM culture (Heredia & Goldlink, 2021), and becoming normative among gbMSM, but not among non-gbMSM. Henry also believed that MSM (i.e., “*Even the straight ones*”; usually heterosexually identifying men who engage in same-sex activity) are unaware of PrEP. This could indicate that MSM uphold different values and norms to gay and bisexual men due to their identity differing from gay and bisexual men. As MSM are often perceived as heterosexual men who engage in same-sex activity, it is unlikely that they would engage in social behaviour that revealed their sexual interests. Therefore, this may suggest that due to increased personal mobility (i.e., ‘passing’; Berger, 1992) and social mobility due to identification as a heterosexual, that MSM would hold different norms which would for example, be based around their identification and be less influenced by their sexual behaviour. However, MSM are often associated with increased sexual risk-taking, and thus it could be suggested their lack of awareness of PrEP could lead to a higher incidence of HIV, supporting previous research into increasing HIV prevalence in MSM attributed to condomless sex (Hess et al., 2017). In sum, participants (such as Henry), often associated PrEP knowledge and awareness with those most embedded in gay culture (i.e., gay and bisexual men), and reported that heterosexuals and MSM would likely have low awareness of PrEP.

Participants often anticipated that heterosexual awareness of PrEP would be low. Despite this, they often assumed heterosexuals would perceive gbMSM and/or PrEP negatively:

**Extract 2:**

Bradley: I doubt they know about it, I, they typically don't really pay much attention unless they're trying to take away our rights so and also you know they may pay attention to that



case. I'd probably say the average straight person wouldn't know. I don't think if I asked some of my uni acquaintances for instance, I don't know if they would know what it is.

Like Henry, Bradley also suggested that heterosexuals would be unaware of PrEP. However, Bradley builds upon Henry's perspective to highlight tension between gbMSM and heterosexuals, suggesting that heterosexuals choose to ignore gbMSM unless they are attempting to target gbMSM rights. As gbMSM are a minority and stigmatised group, it is possible that gbMSM experience broader isolation from society, with stigmatised groups often being associated with social isolation (e.g., Bagcchi, 2020). However, although problematic historical relationships between gbMSM and heterosexuals may help explain gbMSM perceptions of heterosexuals, it is a problematic generalisation to assume all heterosexuals negatively treat and judge gbMSM. It is possible that due to gbMSM often experiencing attacks on their rights (e.g., ongoing campaigns to ban conversion therapy in the UK), due to their minority status, Bradley attempted to increase the difference between gbMSM and heterosexuals (Tajfel & Turner, 1979). As Bradley suggests that heterosexuals are generally unaware of PrEP, this could suggest that it may be challenging to ensure that a PrEP user identity is normalised in society.

Some participants used meta-perceptions to anticipate how heterosexuals might perceive PrEP usage. This led to participants discussing how they believed heterosexuals would judge PrEP due to being associated with gbMSM:

**Extract 3:**

Interviewer: How do you think that PrEP is viewed outside of the LGBT community?

David: I think that it's potentially viewed as something like an extra thing that's given to the LGBT community just because they can't look after themselves. I think that's probably

the main thing like you can imagine people tutting and saying “If they just wore a condom”, or if they just couldn't have so much sex how dare they and they wouldn't need to spend all this hundreds of millions of pounds providing PrEP but it's a very, it's a very short-sighted view because obviously within that they don't understand that spending that short amount that small amount money on PrEP is a huge saving in terms of the number of HIV transmissions that would always happen anyway so actually investing in PrEP is a saving but the way it's communicated is just wrong.

Although PrEP is a medical tool for HIV prevention, David's account would suggest that he believes heterosexuals would perceive PrEP as only needed by the LGBT community, possibly indicating he believes gbMSM would be seen by heterosexuals as a liability and unable to control their own behaviour. GbMSM sexual norms differ from heterosexual sex norms, with gbMSM generally perceiving concurrent sexual partners as more acceptable than heterosexuals (Glick et al., 2013). David's account could suggest that he anticipated that heterosexuals would perceive himself (and other gbMSM) negatively due to heterosexuals stereotypically associating gbMSM with promiscuity. It is possible that David used meta-perceptions to express how he felt heterosexuals would stigmatise gbMSM and PrEP use, assuming that heterosexuals would uphold traditional views of blaming gbMSM for HIV as perceived in the HIV/AIDS Crisis. It is possible that David's assumptions that heterosexuals are judging the gbMSM community could have negative repercussions for him or other fellow ingroup members, as this perception of stigma could lead to a greater segregation between the gbMSM community and outgroups (such as heterosexuals). Moreover, assumptions of gbMSM as risky may foster the link between PrEP and promiscuity, leading to PrEP becoming even more stigmatised. Finally, David discusses how although investing in PrEP is helpful for combating HIV transmission, there are problems with public health messaging about PrEP. This could suggest that it is important to focus on minimising negative

stereotypes of PrEP to foster a positive image surrounding PrEP usage. If a positive image of PrEP was maintained, this could result in more gbMSM uptake of PrEP due to it being less stigmatised.

In sum, participants often assumed that heterosexual awareness of PrEP would be low, while attempting to anticipate how PrEP would be perceived by heterosexuals. Participants used meta-perceptions to highlight their belief of how heterosexuals would perceive gbMSM and in turn, how this may result in negative perceptions to PrEP use. Participants also discussed how they believed heterosexuals stigmatised gbMSM community and perceived it as highly promiscuous: this is explored in the next Sub-Theme.

#### **5.2.1.2: Sub-Theme 2.2: Heterosexual Outgroup Stigma: Sex and Promiscuity.**

Participants believed that heterosexuals would stigmatise gbMSM for their attitudes to sex positivity. Participants utilised meta-perceptions to explain how they thought heterosexuals would see gbMSM as promiscuous risk takers. Participants often disputed this perception of gbMSM as promiscuous, which was noted to contradict descriptive ingroup norms of sexual risk-taking discussed in Theme 1. Moreover, it was also inconsistent with ingroup stigmatisation of PrEP users observed in Theme 2. This could indicate that participants felt stigmatisation and judgement from the outgroup was more detrimental to gbMSM than stigmatisation from fellow ingroup members, in addition to suggesting it was inappropriate for outgroup members to judge gbMSM behaviour.

Participants often discussed how the heterosexual community associate the gbMSM community with high levels of promiscuity:

#### **Extract 4:**

Billy: I think we're all getting a bit sick of the straight community branding us as something that we're not and I think so many people, like I have so many friends who they just automatically assume that if you're gay you sleep with anything that moves, I mean the

amount of straight men who were scared of gay men as they think you're automatically gonna fancy them but it's like 'don't flatter yourself'.

Billy held meta-stereotypes to describe how he perceived heterosexuals would perceive gbMSM negatively. This indicates that Billy believes that heterosexuals would perceive gbMSM negatively due to stereotypical associations between gbMSM and promiscuity. As understanding how an outgroup may perceive gbMSM could provide a useful insight into how gbMSM are perceived, it is possible that Billy used meta-stereotypical language to anticipate how heterosexuals would perceive gbMSM. Indeed, Billy may have generalised his experiences of heterosexual friends' perceptions to heterosexuals more broadly, possibly as an attempt to gauge wider perceptions of gbMSM beyond his friends. Although meta-stereotypes can be inaccurate, meta-stereotypes are sometimes used to predict current perspectives of how outgroups perceive ingroups (Kim & Oe, 2009), which could explain why Billy generalised his personal experiences with friends' to a wider heterosexual population. Billy also discussed how associations of gbMSM and promiscuity are untrue, and could be perceived to perpetuate homophobia (e.g., due to heterosexual men feeling threatened or fearing gbMSM). Study 1a (See Chapter 4) highlighted that elevated risk-taking and liberal attitudes to sex were normative among gbMSM. However, Billy disputed the perception of gbMSM as promiscuous in this extract. It is possible that due to Billy discussing perceptions of an outgroup (particularly one that has historically targeted gbMSM, i.e., heterosexuals), Billy attempted to avoid perceptions of gbMSM as promiscuous to try not to affirm negative beliefs held about gbMSM by this outgroup.

Other participants discussed how the heterosexual community views the stigma of HIV:

**Extract 5:**

Interviewer: Do you think that the [HIV stigma discussed in interview] stigma is coming from within the community or outside?

Louis: I think it's both but on different levels so I think you, outside of the community, you would have the traditional stigma of 'oh they must be promiscuous they must be like they mustn't use protection it's kind of their own fault'.

Louis discussed how outgroups judge gbMSM and believed that outgroups would believe gbMSM deserve to be stigmatised, thus reinforcing Billy's claim that outgroups would perceive gbMSM as promiscuous. Louis believed outgroups would view gbMSM negatively (i.e., a meta-perception), and make sense of outgroups perceiving gbMSM negatively by suggesting outgroups may assume gbMSM do not use preventative measures (such as condoms), therefore leading to HIV infection. It is possible that Louis used meta-perceptions to better understand why outgroups may perceive gbMSM negatively (Gómez, 2002; Kim & Oe, 2009). Additionally, Louis described intergroup stigma as "traditional stigma", suggesting that historical stereotypes of gbMSM (and their association with HIV) may underpin his meta-perceptions of outgroup perceptions of gbMSM. Also, perceived poor awareness of PrEP among heterosexuals, could suggest that outgroups would be unaware of PrEP, and use of PrEP as a tool to protect gbMSM. It could be suggested that regardless of the preventative measures taken by gbMSM, Louis believes that the outgroup would negatively view the gbMSM community due to the perceived relationship between HIV and promiscuity in gbMSM members.

Other participants discussed how they perceived heterosexuals to often hold negative opinions of them which could lead to rejection:

**Extract 6:**

Simon: I think they're still perceive it as something only linked to the gay community ...like all gay because you spend so much time having so many different relationships you ended up getting infected while, you know, it has happened in different, like obviously in a straight couple it happens in gay couples so yeah I think I am pretty sure this is still a stigma people don't want to talk about it, it is a difficult topic to bring when you engage with someone because obviously you don't want to feel rejected, so you don't really know how the other person is going to react yeah.

Simon argued that HIV is often perceived as a gbMSM-orientated virus, although rightly points out that heterosexuals can also transmit HIV. However, he noted heterosexuals assume that gbMSM obtain HIV through being promiscuous. Simon's extract could highlight normative differences between gbMSM and other groups by suggesting that heterosexuals associate multiple relationships with HIV infection, although (as discussed in Study 1a), liberal attitudes to sex are common among gbMSM. Even though Simon was not LWHIV, he argued that discussing HIV with heterosexuals is taboo, and could lead to rejection. This could suggest that even gbMSM who are not LWHIV could experience social isolation due to fearing disclosure. However, this has significant implications because concealing this part of their sexual identity could be detrimental to the health of both the individual and any sexual partners (Cole et al., 1996; Pachankis et al., 2015). This demonstrates how the outgroup's perception of gbMSM possessing multiple sexual partners as something shameful has the potential for negative social consequences.

In summary, participants frequently used meta-perceptions and meta-stereotypes to explain how they believed heterosexuals would perceive PrEP. Discussions also considered how attitudes to PrEP would likely be related to attitudes to gbMSM, with the expectation that they are perceived as promiscuous. However, these are not necessarily factual accounts and could create

tension between gbMSM members and outgroup members, or impact on other interactions, such as when speaking with medical and sexual health professionals: a topic explored in Theme 2.

### **5.2.2: Theme 2: Sexual Health Services and Stigma**

Almost all participants depicted sexual health service experiences as containing some element of stigma. This was discussed as anticipated (rather than experienced) stigma, although some participants discussed their experiences of stigmatised healthcare interactions. This theme aims to capture the intergroup dynamics underpinning the relationships between gbMSM members and sexual health services. This theme will also explore how social factors (e.g., group norms, and whether healthcare professionals are seen as ingroup or outgroup) contribute to participants' experiences of stigma and shame, and the Social Curse processes that this entails. This theme also highlights the necessity of positive sexual healthcare service interactions so that gbMSM individuals can engage with services and receive PrEP without fear of judgement. Without positive experiences, gbMSM members could be at risk of poor sexual health outcomes and face increased likelihood of HIV transmission, due to limited awareness of PrEP, or reduced help-seeking due to anticipated judgement and stigmatisation.

**5.2.2.1: Sub Theme 2.1: Anticipated and experienced stigma of service users.** Stigma was a key discussion point across all interviews when participants were asked about their experience engaging with sexual healthcare professionals. However, although some instances of experienced stigma were reported, most participants indicated that they anticipated stigma from healthcare professionals, highlighting that the longstanding intergroup division between gbMSM and healthcare professionals is still present.

Some participants recounted times where they had experienced stigma in healthcare settings. One participant provided an in-depth account of a stigmatised interaction with a doctor when trying to obtain PrEP:

**Extract 7:**

Ross: [Sexual Healthcare Professionals] ask, they're very specific with the questions they ask, the type of sex you're having, who you're having sex with and everything it feels a bit like you're being interrogated a little bit and I guess I suppose it depends on your relationship with sex too if it's just a casual encounter and if you are having sex with multiple people it can feel like you're being judged a little bit... I had an appointment to receive PrEP and I always remember this the consultant who was speaking to me made this sweeping statement like 'it would be much easier if you decided to have sex with one person' and that just made me so angry and he was from, from my perception came across as a heterosexual older man who seemed to really not really have that much understanding that sex doesn't have to be just between two people and I think he was making his views quite clear in a way and I just felt very judged and angry in a way... I didn't really say anything I just eyerolled I guess and thought I could really go off on one but I'm not going to because I want this medication.

Even though asking these questions was likely to be healthcare procedure, this still led to Ross experiencing negative feelings of judgement due to stereotype awareness (i.e., entering an interaction expecting to be stereotyped, leading to projection of fear onto the interaction (Corrigan et al., 2006). When faced with stigma in a healthcare setting, it is possible that Ross utilised meta-perceptions to make sense of this interaction. By perceiving the consultant as an older, heterosexual man, this may have helped separate Ross and his normative views from the consultant and their views, the latter of which were perceived by Ross as threatening his wellbeing. The consultant telling Ross it would be easier if he slept with one person is problematic as it perpetuates homonormativity (i.e., forcing heterosexual group norms, such as monogamy, onto the gbMSM community), demonstrating that the consultant had little understanding of



gbMSM group norms, even though he was administering PrEP, a drug primarily taken by the gbMSM community. Moreover, if healthcare professionals and their values are perceived as threatening to gbMSM, this could lead to disengagement with services, which would likely result in negative outcomes for gbMSM health. However, Ross deemed PrEP important enough to withstand the discomfort of prejudice and stigma. Prioritising PrEP during a stigmatised interaction is consistent with social identity research on foodbanks where similar cost-benefit analyses are used to evaluate the risk of stigma when help-seeking (Bowe et al., 2019).

Other participants attempted to explain how gbMSM should not fear stigma in healthcare settings:

**Extract 8:**

David: I empathise with people who don't know all that stuff and don't know that if you say that you've had 30 sexual partners in the last month the person asking the question [in the sexual health clinic] doesn't actually care that much...it's just a number to them...I think [fellow gbMSM] possibly been really jaded in the past because for a small minority of sexual health practitioners there may be a judgement so imagining like older women who worked in family planning before sexual health services were integrated and now they're having to do sexual health stuff like for the past 10 years and they're still in that place of you know 'I just want to give coils [Intra-Uterine Devices], I just want to speak to women about their options' and now they're having to ask gay men about how many guys they've shagged over the last three months so for a small minority of practitioners there might be that hint of judgement and that may come across in the wrong way and it might mean that people think that all people are like that.

David suggested that anticipating stigma from sexual healthcare professionals was a result of gbMSM having negative experiences when visiting sexual health clinics, which could be attributed to gendered and generational differences. David suggested that stigma would likely come from older women used to providing female contraceptives, thus increasing the gap between his own gbMSM identity and healthcare professionals, thereby creating an 'us' versus 'them' mentality (Bosnjak, 2006). However, assuming older female healthcare professionals would stigmatise gbMSM (i.e., meta-stereotyping) could lead to generalisations, which could result in anticipated stigma and disengagement from sexual health services. It is possible that David used meta-stereotypical language as armour (Gómez, 2002) attributing healthcare stigma to a specific subgroup of healthcare professionals, and thus reducing perceptions of healthcare professionals as a threat to gbMSM identity. This creates a complex social dynamic whereby stereotyping can be seen to act as a buffer against anticipatory stigma, thus allowing David to feel able to utilise sexual healthcare services. However, this has implications for other group members who may struggle to overcome stigmatised experiences. In these instances, gbMSM may feel threatened by services, leading to disengagement, and thus limiting opportunities for service workers to endorse safe sex practices, such as PrEP use, while also increasing the likelihood of gbMSM not getting tested for STIs, thus risking their health. These findings of how people who possess stigmatised identities may struggle to engage with organisations and services are consistent with other Social Curse literature (e.g., Këllezi et al., 2019).

Various accounts were given by participants around the shame that might be associated with using sexual health services:

**Extract 9:**

Harry: I think it's for me it's an important aspect of health and life to look after your sexual health and be aware of it, erm and for me personally I have you know other health

concerns and things like that as well so it's important to me to be open about every aspect of my health and I don't know, I just I personally I don't really carry any shame around health. I don't feel shame for my sexual life, or you know sexual history and health. I don't feel as though it's something that I need to kind of hold back or whatever, especially with a medical professional who you know has trained and knows what they're talking about.

Harry discusses the importance of having good sexual health, and how for him, sexual health does not “carry any shame”, leading to accessing sexual health services. Harry also shows a sex positive attitude (“I don't feel shame for my sexual life”), which could help to alleviate any concerns over sexual health experiences. Additionally, Harry positions the person he would be disclosing his sexual health to (“the medical professional”) as an expert, which in turn helps to mitigate feelings of stigma due to them knowing “what they're talking about”. This likely can be explained by normative beliefs held by Harry that healthcare professionals are experts, and thus can be trusted. It would also suggest that Harry views healthcare professionals as part of his ingroup of people who share his beliefs surrounding the importance of good sexual health.

However, Harry's account may imply that he is aware that not all people would feel the same (“personally”, “for me”). It is possible that those who do feel shame regarding their sexual health may not seek healthcare, which may lead to poor uptake of sexual health services and thus poor knowledge of sexual health status (such as HIV status). Feeling stigmatised and ashamed can lead to people not accessing appropriate help (Bowe et al., 2019). Thus, it could be suggested that reducing feelings of shame and stigma surrounding sexual health is imperative for positive health outcomes.

Even though sexual health services should be beneficial to gbMSM's health, stigma and shame could lead to them refusing to access services, which could not only create medical repercussions, but also illustrates how unhealthy sexual health behaviours (i.e., avoiding clinics)

may result in detrimental health outcomes. This supports previous research highlighting that unhealthy norms can result in poor health outcomes, otherwise known as a Social Curse (e.g., (Cruwys & Gunaseelan, 2016; Gavin et al., 2008). This is because, if it becomes normative to avoid seeking sexual health services due to the fear of stigmatisation, disengagement from sexual health services could occur, leading to worsened sexual health outcomes for gbMSM. The avoidance of accessing sexual health services places sexual health workers in an outgroup that seemingly does not align with gbMSM members. In turn, this could result in poorer health outcomes due to sexual health services not being able to foster healthy sexual health norms in gbMSM. This could result in a lack of PrEP uptake and could ultimately cause a rise in HIV transmission.

Anticipated stigma and experienced stigma could create a division between gbMSM members and sexual health workers by placing sexual health workers in an outgroup. It is important to consider the extent to which sexual health workers are seen as either ingroup or outgroup, as this could influence service interactions and ultimately attitudes to PrEP.

**5.2.2.2: Sub-Theme 2.2: Service Workers' Familiarity With gbMSM: Social Curse and Curse Interplay.** Participants explored that service worker familiarity (e.g., GP's), could be perceived as beneficial or detrimental to help-seeking. Many participants suggested it would be easier to disclose information to a GP due to increased trust and familiarity:

**Extract 10:**

Interviewer: Yeah, so what about if you were discussing your sexual health with a medical professional so like a someone that worked at a clinic how would you find that?

Oliver: For that particular matter I can't say, but a medical personnel that you yourself you know them very well, um, they know this person and he or she gets my personal information maybe about my health status or something of the sort, so I can't say I mind

family doctor, so that one you can express yourself well without fearing anything. Maybe he or she is holding your information so you maybe, I can't say for the medical personnel there is that you cannot just be open to all of them but there is that particular one that you trust, and you know them and give them all of your information and have no fear.

Oliver's account of dealing with sexual health services serves to strengthen the idea that family doctors are seen as a trustworthy source, as you can "express yourself...without fearing anything". He feels able to share this personal information with his family doctor as someone who you can "give them all of your information and have no fear". Like other participants, it is likely this can be explained by the doctor being perceived as an ingroup member who can be anticipated to be trusted to be private and confidential. Oliver's distrust of sexual healthcare workers could be due to him viewing them as the outgroup ("you cannot just be open to all of them"), and therefore as not sharing his norms and as not to be trusted. It is possible that Oliver would feel more comfortable with a primary healthcare worker (such as a GP) accessing his personal data due to an increased familiarity between himself and the GP, leading to perceiving them as a member of his community.

This discussion surrounding the sometimes-complex social components of discussing sexual health with a GP was shared with other participants. One participant resorted to seeing their GP for sexual health concerns due to being unaware of the availability of sexual health services in their hometown:

**Extract 11:**

Miles: In order to get tested well for me so I went to the GP because I'm not aware of any health clinics around my area I think there is one I think it's also at the GP but you have to

ask they ask 'why you are getting tested?' so you know I know I felt obligated to say about I have had sexual partners and you know I've made sure they are negative but just in case there's you know anyone who could be positive by even if they know they're positive or they don't know is positive could possibly transmit it to me I want to make sure of that and clear on HIV and so you know given that whole sort of reason felt a bit uncomfortable because you know it's very private and even giving my sexuality and all that seemed a bit uncomfortable because you know I feel like even though doctors can't discriminate against you...I still feel like it will cause a bit of an awkward atmosphere.

Miles' sexual health appointment with his GP was not a positive experience. Miles was aware that the GP had to ask certain questions, but still felt uncomfortable, reporting feeling judged and stigmatised for several potential reasons. First, it is not a family doctor's responsibility to undertake sexual health tests, and this may have attributed to the "awkward atmosphere". It is also possible that rather than facing actual judgement, Miles anticipated stigma. There is also a sense of Miles feeling the need to justify why he was there by making sure to say that he had ensured all his sexual partners were HIV-negative. It is possible that in this instance Miles felt it was necessary to try and preserve their interpersonal relationship so that he was not judged for his behaviour ("though doctors can't discriminate against you... I still feel like it will cause a bit of an awkward atmosphere"). This extract demonstrates that familiarity within sexual healthcare interactions is not always beneficial. It also demonstrates that Miles may feel fearful of disclosing his gbMSM identity to a sexual health worker for fear of being discriminated.

Other participants explored how speaking to GPs about sexual health might result in negative healthcare interactions:

**Extract 12:**

Interviewer: Could I just clarify you said that people would fear judgement coming from their GP, so yeah erm, what do you mean by that?

Harry: What I mean is that perhaps by going in and seeing your GP about getting a prescription for PrEP that your GP may think negatively of you erm that they may think 'oh you're at really high risk' and things like that erm which hopefully um wouldn't be the case I don't think. I would hope that GPs wouldn't view it that way erm, but I do think that you know people would feel that way about going and getting it, you know kind of a sense of anxiety about being negatively judged for trying to look after themselves. Which sounds really weird when I say it out loud, but there's you know in my experience especially with men there's a lot of kind of shame about going to your GP about anything.

Like Miles, Harry expressed concern that GPs may be judgemental about an individual being on PrEP. Harry uses meta-stereotypical language to create an image of how he thinks doctors would see PrEP taking as indicating irresponsibility, promiscuity, and engagement in high-risk behaviour. Moreover, Harry notes that some gbMSM might feel "negatively judged for trying to look after themselves", illustrating the previously discussed dichotomy of PrEP use as being simultaneously associated with responsibility and promiscuity. Finally, he discusses the idea that there is "shame about going to your doctor for anything", especially for men. This is consistent with research into men's help-seeking behaviour (Möller-Leimkühler, 2002).

For one participant, discussing their sexual health with their family doctor was not possible due to the potential violation of religious/cultural norms:

**Extract 13:**

Interviewer: How comfortable do you or would you feel discussing your sexual health with a medical professional so like a sexual health worker at a clinic?

Tariq: I think with sexual health worker I would feel comfortable, with but with my GP because from cultural background [Muslim] I'd struggle to even keep the conversation around to do with sexuality to do when gender think then again, the judgement in place with the opinions of. I'd rather not share for my GP not I don't feel comfortable like, and then again in Britain some communities in some cultures would be very against that, you know, you telling him [GP] these issues.

Tariq did not see familiarity with healthcare workers as a positive aspect when discussing sexual health. Being of Muslim faith, Tariq found it very difficult to imagine conversations with his family doctor, as this would involve discussing his sexuality, an identity that directly opposes his religious/cultural identity. In this instance, the family doctor could have cultural ingroup ties, which would exacerbate the difficulty of discussing his sexuality, and thus sexual health in this setting. This is consistent with findings in the literature surrounding intersectionality of religion and sexuality (Semlyen et al., 2018). Moreover, it is a clear example of how possessing intersectional identities is not always beneficial to health and can act as a Social Curse, specifically through violation of religious/cultural norms (i.e., Tariq's sexuality is forbidden within Islamic faith). Tariq may also fear that his GP could inform other members of his cultural community and/or his family about his sexuality. Although doctors are expected to remain confidential, this meta-perception could be sufficient in limiting how truthful Tariq is when discussing his sexual health with medical professionals. In this instance, the presence of multiple group identities caused significant difficulty in seeking sexual health services.

**5.2.2.3: Sub-Theme 2.3: Outgroup Experiences Reduce Anticipated Stigma.** Although many participants reported anticipated or experienced stigmatised interactions with healthcare



professionals, some participants reported positive interactions with service providers. This was sometimes observed in those with experiences of volunteering for sexual health organisations, indicating the role of contact with outgroups in reducing anticipated stigma. It was also observed that participants sometimes had pre-existing relationships or developed relationships with sexual healthcare workers, indicating that the presence of a shared healthcare identity could be beneficial due to perceiving healthcare professionals as part of the ingroup.

Many participants discussed the effects that volunteering and/or working within sexual health services had on their attitudes to sexual health:

**Extract 14:**

Wyatt: It is nerve wracking getting tested I don't think I got tested for about 3 or 4 years which was really bad, but I was so scared.

Interviewer: Yeah, why were you scared?

Wyatt: I don't I think it was, I think I was just worried I had something, but I think it was before I really knew much about HIV, I mean I should have learned more I should have educated myself earlier on ... I just think I didn't really know whereas now I'm completely like educated I make a point of knowing, like [doing sponsored] walking for George House Trust and doing fundraising for Terrance Higgins trust has really helped boost my sort of knowledge of HIV and how its transmitted and how its controlled and stuff. So it sort of made me understand I guess... I actually feel really relaxed going in I think it's the way the nurses and the doctors make you feel. I think you can have a laugh with them erm I've got a couple of friends who work in the HIV side of nursing and they are I think you've got to sort of when you're dealing with something like sexual health you've got to sort of have

that, you've got to be personable and you've got to have that sort of banter with the patient because it just puts them at ease.

Wyatt originally feared getting tested for HIV, but by educating himself he has reduced his anxiety surrounding getting tested. Engaging in fundraising and activities for HIV charities has helped Wyatt learn about HIV, a finding that researchers investigating volunteering behaviour have reported on since the early days of the HIV pandemic (Snyder & Omoto, 1992). Moreover, having friends who work in sexual health likely results in the outgroup (sexual health workers) feeling more like the ingroup, thus making sexual health workers feel more familiar and thus more approachable to Wyatt. It is possible that by having friends who belong to the outgroup, Wyatt may have upheld a greater understanding of the outgroup and their values, and thus anticipated less stigma, as posited by Intergroup Contact Theory (Pettigrew, 1998). Alternatively, it is possible that by having multiple group identities (i.e., sexuality, volunteer, friends who are sexual health professionals) Wyatt could mitigate the impact of stigma, and in turn buffer the Social Curse processes that occur because of belonging to a stigmatised community. Being a member of the gbMSM community and developing a sense of familiarity with HIV healthcare workers through volunteering and fundraising has helped Wyatt perceive sexual health care workers as part of his ingroup. It is likely that this is why he can "have a laugh" with sexual health service workers, and why he does not perceive sexual health testing as stressful. This is consistent with research on how multiple group memberships can be beneficial to health and wellbeing (Sani et al., 2015a).

Similarly, one participant, a sexual healthcare worker and volunteer, reported that it was difficult to keep their sexual healthcare worker identity and gbMSM identity separate, which led to positive service interactions:

**Extract 15:**

Max: It was a kinda funny exchange because I was blabbering on about travelling stories while they were putting a, you know, did blood tests and asking me about my sexual health history. So previously there was always sort of blurred lines a little bit using the service as a patient, but when I also worked there so I have always had a kind of a good relationship with the team certainly...I feel your sexual health is important as any other part of your health and yeah so, I'm used to being quite open about that sort of thing.

Max's work experiences led to feelings of "blurred lines" between his patient and employee identities. Like Wyatt in Extract 14, Max perceived this blurring positively, again indicating that multiple group memberships can help mitigate the stigma and shame associated with visiting sexual health clinics. Additionally, Max believed that it was important to maintain good sexual health, an attitude that was likely fostered by his own sexual healthcare worker identity.

Relatedly, one participant discussed how having multiple identities led to them feeling less stigma and shame surrounding sexual healthcare interactions, which they largely attributed to the knowledge and education they had developed through their sexual healthcare worker identity:

**Extract 16:**

Interviewer: Do you have any experiences of sharing your own health status with other people, so your HIV status for example?

David: Yeah, and it's never been a problem for me... because of my previous job and talk about sexual health and all of that kind of stuff, so it's never been an issue for me.

Probably to the point of oversharing with some friends who don't care or don't want to know, but yeah talking about sexual health and health status has never been something

that I've kind of wrapped myself up in, and not been confident asking for help or having a laugh about it or do whatever it might be.

David also found that prior work experience in sexual healthcare led to him not experiencing shame or stigma surrounding using sexual health services, thus reinforcing the benefits of multiple group memberships as a phenomenon that can reduce stigma surrounding sexual health services. It is likely that the knowledge and experience gained through engaging in sexual healthcare work/volunteering enables these individuals to navigate sexual health services without experiencing stigma or shame. Moreover, David expressed how he discusses his attitudes to sexual health with his inner circle of friends. This could result in the buffering effect from David's multiple group identifications being transferred to members of his inner friendship circle.

In summary, through multiple group identification, participants seemed to report better service interactions with sexual health workers. It is possible to argue that this is due to perceiving service workers as members of the ingroup, thus reducing the stigma and shame associated with visiting clinics. It is also possible that through these participants interacting with their inner circle, that this could result in sharing the knowledge and experiences. In turn, this could help alleviate stigma and shame for other gbMSM who may anticipate that sexual health service interactions would be imbued with stigma.

### **5.3: Study 1b Interim Discussion**

As stated in the previous chapter, due to the need to collectively consider the results of Study 1, a full General Discussion of Study 1 will be provided at the end of the subsequent chapter (see Chapter 6). However, a summary of the core findings of Study 1b will be presented below.

Although previous research approaches have provided useful interpretations of gbMSM attitudes to PrEP, theoretical underpinnings such as Social Representations Theory (Williamson et

al., 2019) fail to capture the complex intergroup dynamics underpinning gbMSM attitudes to PrEP. Moreover, although previous identity-based research has used Structural Equation Modelling to show that attitudes to PrEP are mediated by attitudes to gay men (Jaspal et al., 2019), such research cannot elucidate on the complexity of group-based processes. Therefore, one of the key strengths of the present study is the fact that it builds on previous research in this area by offering insight into specific intergroup processes relevant to understanding gbMSM attitudes to PrEP.

Theme 1 explored how gbMSM perceived heterosexual awareness of PrEP to be low. However, gbMSM assumed that heterosexuals would still hold negative attitudes towards both gbMSM and PrEP (i.e., negative meta-perceptions). This may offer an explanation as to why gbMSM used meta-perceptions to make sense of outgroup opinions. It is important to note that just because stigma is anticipated (rather than necessarily experienced) does not mean it is inconsequential: anticipated stigma has been associated with poor health and wellbeing outcomes such as increased depression (Chaudoir & Quinn, 2016). Moreover, since getting access to PrEP requires a clinic visit, it is possible that anticipating stigmatised interactions could deter some gbMSM from accessing clinics, which has health implications of its own.

Additionally, it was often anticipated that heterosexuals perceive gbMSM as promiscuous. Thus, although gbMSM took ownership of sexual risk-taking when discussing their ingroup status (see Chapter 4), gbMSM were reluctant to take ownership of their sexual risk-taking when outgroups may judge and stigmatise them for their behaviour. This may indicate that gbMSM may be less willing to take ownership of their behaviour in the presence of outgroups due to fear of (re)affirming negative beliefs that outgroups may hold about gbMSM.

Theme 2 further highlighted that meta-perceptions may be helpful to understanding contemporary gbMSM stigma. It was often assumed that healthcare professionals would perceive gbMSM negatively, with very few gbMSM reporting experienced stigmatised interactions with healthcare professionals. However, in line with contact theory (Allport, 1954), when gbMSM had

first-hand experience of healthcare professionals, anticipated stigma could dissipate. As highlighted throughout this thesis, the socio-political history between gbMSM and healthcare professionals is complex, which could have implications for help-seeking behaviour. As this thesis is concerned with PrEP which requires clinic access, poor intergroup dynamics could be suggested to impact help-seeking behaviour (i.e., avoiding sexual health services), and thus could result in negative consequences to their sexual health.

The present study is argued to advance understanding of stigma processes underpinning gbMSM, HIV, and PrEP by suggesting that stigma may be explained by socially driven processes such as meta-perceptions and anticipated stigma. Due to the prevalence of anticipated stigma and meta-perceptions across both Theme 1 and Theme 2 of Study 1b, anticipated stigma and meta-perceptions shall be explored later in this thesis in Study 2 (see Chapter 7 and Chapter 8).

Study 1b's findings also suggest that gbMSM perceive a clear divide between themselves and sexual healthcare professionals. This led some gbMSM to suggest that familiarity can be helpful when discussing sexual health, indicating the potential benefits of speaking to a General Practitioner (GP). However, other gbMSM who held additional (and opposing) identities, indicated that intersectionality (i.e., cultural and sexuality identities and core values) may not align, which could result in the familiarity of a GP being detrimental. Due to the wider implications of these findings (and their relevance to thesis aim 3), the role of familiarity shall be expanded upon in the Study 1 General Discussion (see Chapter 6).

So far, Study 1a (see Chapter 4) and Study 1b (see Chapter 5) have explored how gbMSM attitudes to PrEP may be underpinned by intragroup and intergroup processes respectively. However, as discussed in the present chapter, it is often difficult to observe such processes separately. Although Study 1 aimed to explore intragroup and intergroup processes, participants' interviews often involved broader discussions of how society may perceive gbMSM, HIV, and PrEP. Participants' accounts often focussed on societal depictions of gbMSM and larger injustices,

leading to exploration of both intragroup and intergroup processes underpinning wider societal processes. Thus, it is necessary to turn to the final component of Study 1 to highlight how research on gbMSM experiences in society often neglect group-based processes, and to offer insights on how group-based processes may underpin societal issues facing gbMSM.

## **Chapter 6. Study 1c: A Qualitative Exploration of The Combination of Intragroup and Intergroup Processes in Attitudes Towards HIV and PrEP in gbMSM**

### **6.1: Chapter Overview**

Study 1 aimed to address how group-based processes could help explain gbMSM attitudes to PrEP. Although Study 1a (see Chapter 4) and Study 1b (see Chapter 5) explored how intragroup and intergroup processes may influence gbMSM attitudes to PrEP, participants also often discussed the effect of broader societal issues which were underpinned by a combination of both intragroup and intergroup processes. Thus, the present chapter introduces Study 1c, which aimed to capture how intragroup and intergroup processes may aid understanding of societal issues central to gbMSM (e.g., gbMSM-focussed sex education), and, in turn, to their perceptions of HIV and PrEP.

As stated throughout this thesis, (e.g., see Chapter 2), the stigmatised associations between gbMSM, HIV, and PrEP remain strong, leading to PrEP being perceived as a gbMSM-orientated drug. Moreover, the fact that PrEP is associated with HIV (i.e., a stigmatised disease) could exacerbate the stigma already aimed towards both gbMSM and PrEP users. Therefore, although the present study's interviews were focussed on participants' perceptions of PrEP, participants often also discussed broader issues pertaining to their gbMSM identity and minority group status. This chapter thus predominantly reports inductive analyses.

Previous research on minority stress has suggested that minority groups (e.g., gbMSM) are likely to be subjected to ongoing prejudice, which over a prolonged period negatively influences members' health and wellbeing (Burns et al., 2012; Cramer et al., 2017; Flentje et al., 2020). Although this thesis does not dispute the influence of minority stress on gbMSM, minority stress approaches do not always emphasise the role of sociopsychological factors such as group processes, and thus only provide partial insight into the effects of prejudice on minority groups (Holman, 2018). Indeed, participants often discussed how societal issues such as a general lack of



PrEP awareness and hetero-centric sex education in schools could be detrimental for gbMSM, which in turn could influence their perceptions and awareness of PrEP. Therefore, the present chapter aims to elaborate on how adopting a group-based approach may be beneficial for understanding how gbMSM's experiences within the broader society are influenced by a combination of intragroup and intergroup processes. Primarily, participants highlighted the importance of increased societal PrEP awareness, the presence of role models, and the societal influence of media depictions of PrEP use and gbMSM (See Table 6.1).

**Table 6.1**

*Study 1c Thematic Structure.*

Themes	Sub-Themes
1. Challenging Perceptions and Knowledge of PrEP in a Heteronormative Society.	1.1) Increasing PrEP Awareness. 1.2) Increasing and Improving Education About Non-Heterosexual Sex and PrEP.
2. Appropriate Endorsement of PrEP	2.1) Identity and PrEP Endorsement. 2.2) The Importance of PrEP Endorsement Message Content.
3. The Media as Detrimental to gbMSM Identity.	3.1) Tired Stereotypes of gbMSM as Promiscuous 3.2) Media Fosters Heteronormativity.

## **6.2: Study 1c Results**

### ***6.2.1: Theme 1: Challenging Perceptions and Knowledge of PrEP in a Heteronormative Society***

As highlighted throughout Study 1, PrEP awareness was often only anticipated among gbMSM, with wider societal awareness of PrEP anticipated to be low. Participants often highlighted that for PrEP to become more accepted and recognised as a legitimate source of protection against HIV, it was necessary for increased societal awareness of PrEP, so that attitudes surrounding PrEP could shift. It was often discussed that if more people became aware of PrEP, this would likely lead to more positive associations towards PrEP, which could arguably increase uptake of PrEP (due to stigma reduction). However, it was often noted that awareness of PrEP was tied to larger issues, with sex education in schools often described as hetero-centric, and thus neglecting gbMSM sexual health. Theme 1's findings also highlight how improving both gbMSM's (and, by extension, society's) attitudes to PrEP could also be achieved by redesigning sex education so that it is more comprehensive and inclusive and less focussed on heteronormative practices.

**6.2.1.1: Sub-Theme 1.1: Increasing PrEP Awareness.** Participants almost unanimously felt that more could be done to improve societal perceptions of PrEP. Participants discussed how PrEP becoming embedded into society so that it was perceived as a normative safe sex practice would enhance both perceptions of PrEP and PrEP uptake. This led to discussions surrounding the ways in which participants felt it was important for PrEP use (as well as the risks of HIV/AIDS) to be acknowledged and highlighted within society. Participants talked about the specific need for more ingroup (i.e., gbMSM) PrEP awareness, as well as the need for greater societal PrEP awareness more generally.

One participant discussed how they felt that lack of PrEP visibility was an issue that negatively affected awareness levels, especially in health-focussed public places such as pharmacies:

**Extract 1:**

Interviewer: Do you think enough is being done to promote positive attitudes to preventative measures to HIV?

Billy: No because...I think some of it is very, it's still quite a new thing, and obviously if you're going to the supermarket or you're going to Boots or whatever, you got the whole sexual health aisle which is literally condoms and lube and that's it. And that's why a lot of people think when it comes to sexual health they think 'Durex' and they think 'lube' and that's it. Whereas because see this thing [PrEP] is quite new and obviously it's been available in the clinics, it's not highlighted enough, and so people might not think it's there, they might not think that's an option yeah.

As PrEP is still a relatively novel drug, it is likely that PrEP awareness is sub-optimal.

Although Billy noted that health and pharmacy-based shops often have aisles dedicated to sexual wellness, this is usually limited to condoms and lubricants. This may suggest that Billy perceives societal norms of sexual health to be based on traditional methods of protection (e.g., condoms), which in turn could lead to modern preventative measures such as PrEP not being represented or known about. Additionally, although PrEP is predominantly provided in clinics, Billy noted that some people may not perceive a clinic visit as a feasible option. As Study 1b (See Chapter 5) highlighted, many gbMSM reported anticipating difficult intergroup interactions with healthcare professionals, which may explain why Billy felt some people may avoid attending clinics to receive PrEP.

Although Billy's concerns regarding PrEP representation and awareness are legitimate, it is important to acknowledge the logistical barriers to supplying PrEP in shops, due to PrEP requiring a prescription. However, it is possible that PrEP awareness could be increased by having advertising posters for PrEP in sexual wellness aisles which provided information on where to access PrEP, thus balancing the need for PrEP representation with the practical fact that PrEP

cannot be bought over the counter. Although social norms are acknowledged as often being difficult to change, successful attempts often involve a community-based approach (Cislaghi et al., 2019). As gbMSM are often associated with PrEP, it is possible that involving gbMSM in attempts to increase PrEP awareness could be effective, as well as helping to ensure that gbMSM feel that they have been consulted about and represented in any campaigns that are developed. In turn, public advertisement of PrEP may help gbMSM to realise that they are eligible for PrEP and utilise PrEP as a tool for safe sex.

Other participants were also worried that PrEP awareness is low:

**Extract 2:**

Harry: I don't think enough is being done to kind of promote [PrEP] within the LGBTQ community as erm an option for people. We've all just been drilled with 'wear a condom' you know, and not a lot else erm and I know it's... a new drug ,but I've literally not seen a thing about it like in the clubs or bars or whatever, whereas quite often you'll see leaflets for clinics or you know free condoms and things like that, erm I've not seen anything ever about PrEP... so I think that that's obviously having a massive impact on people's perceptions you know. It's not talked about, so you know when it is talked about it is kind of deemed as a negative thing.

Harry's discussion of PrEP awareness focussed on how ingroup representation and awareness of PrEP remains poor. For example, although LGBTQ+ nightclubs may advocate condom use, Harry noted that he had not seen similar promotion strategies used for PrEP. As highlighted in Study 1a (see Chapter 4) and Study 1b (see Chapter 5), PrEP use is predominantly associated with gbMSM. Moreover, it is often reported that groups such as gbMSM perceive gay bars to be

safe spaces for the LGBTQ+ community (Adams, 2018). If PrEP is not visible in gbMSM venues, it is possible that this could result in PrEP being perceived as taboo, similarly to how talking about HIV/AIDS was perceived in the 1980s/90s. Perceiving PrEP as taboo could result in it becoming further stigmatised due to a lack of awareness.

Some participants reflected on the difference in advertisement for PrEP as opposed to other commonly used drugs:

**Extract 3:**

Peter: you see ads for Viagra on [Social Media] but you don't see adds that PrEP is going to be rolled out for free or the price of a prescription or whatever and I think it has to be pushed into the mainstream by those supporting it to have that initial major influence into how its perceived because it's sort of like erm being outed if it's not on your own terms it may go horribly horribly wrong.

As a drug to treat erectile dysfunction, Viagra has sometimes been stigmatised and has been heavily tied to normative depictions of masculinity (Carpiano, 2010), yet is perceived as normalised in modern society. It is possible that due to the similarities between PrEP and Viagra, Peter felt that PrEP also would benefit from online advertisement, contributing to PrEP usage also being normalised. Peter highlights that the way in which PrEP is promoted is also important. Indeed, by comparing inappropriate advertisement of PrEP to being "outed" (i.e., forced disclosure of sexual orientation), it is likely Peter believed that awareness of PrEP should not be forced, and that it was necessary that individual's felt that PrEP use was their choice. Alternatively, it is possible that Peter is aware that not all would wish to disclose their PrEP status, suggesting that he believed PrEP awareness may benefit from discretion. Peter believed that PrEP awareness

should be mainstream, indicating that he believed PrEP awareness should focus on a societal level, as opposed to solely targeting gbMSM. This would indicate that Peter felt wider acknowledgement of PrEP may lead to PrEP being normalised in society.

**6.2.1.2.: Sub-Theme 1.2: Increasing and Improving Education About Non-Heterosexual Sex and PrEP.** The utilisation of both public health messaging and reformation of sex education in schools were outlined as helpful strategies to improve PrEP education. This often led to participants discussing how sex education was heteronormative, and therefore lacked focus on how to help gbMSM engage in healthy sex. Moreover, a more inclusive approach to sex education may enhance general societal perceptions of PrEP and reduce stigma for those who use it by making PrEP-taking more societally normative.

Many participants highlighted that awareness and education were both necessary to improve awareness and perceptions of PrEP:

**Extract 4:**

Bradley: I suppose the only thing I would say is that I think the education on PrEP needs to go hand in hand...with perhaps destigmatising AIDS and HIV...I know there's a lot of still like you know, HIV phobia to an extent in our community, um, and I know that people that experience that [LWHIV]... these people live with the stigma and I think using PrEP as a way to then educate people about [HIV stigma] is probably a really good step.

Bradley suggested it was necessary to raise awareness of PrEP and HIV/AIDS simultaneously, noting that HIV was still a source of fear among gbMSM. As Study 1a (see Chapter 4) highlighted, gbMSM often described themselves as having received sex education. However, it is possible that if gbMSM experience “HIV phobia”, more education surrounding HIV transmission

(e.g., the idea that having an undetectable viral load by taking ART medication means that the virus is untransmittable: U=U) is needed in order to reduce stigma and misinformation surrounding HIV. Taking PrEP also may have the benefit of increasing gbMSM's awareness of their sexual health and reducing any concerns they have regarding talking about their sexual health, as PrEP users have regular check-ups with sexual healthcare professionals. Moreover, it is possible that engagement with healthcare professionals could help foster a greater emphasis on health-orientated norms. It thus seems likely that PrEP use would become less stigmatised through increased education and awareness, thus reducing negative perceptions of the PrEP user identity. This education could also lead to more tolerance and understanding of those LWHIV, thereby reducing the amount of stigma they experience.

Many participants discussed that it was necessary for sexual health to be reformed in schools so that it includes discussion of PrEP:

**Extract 5:**

Hayden: I think sex education needs to be completely reformed and taught in schools from 10 onwards... and I think PrEP awareness should start I think from puberty... and I think that's where we go, we're not going to be able to do anything with this section [of people] in the middle because we can't change their views. We can share stuff with them but we're going to debate with Karens and Kens until we're blue in the face, so you know what, let them have access to it [PrEP] if they need it, but let's focus on the people that matter and the people who it'll make a difference to...I think 25 and under, colleges, universities and senior schools, I think should have a sexual education reform.

Hayden presented strong feelings towards sexual health reformation and HIV prevention, which could possibly be attributed to his status as LWHIV, and thus wanting others to avoid LWHIV and the subsequent stigma. It is possible that if educators presented positive perceptions of PrEP to children and young people then this may help reduce negative perceptions of PrEP, and thus could increase awareness of and positive attitudes towards PrEP. Moreover, although children are likely to still be navigating their sexual identity at puberty, it could be argued that providing PrEP education to this age-group could help reduce the associations between gbMSM and PrEP, and instead create a focus on PrEP being a medical tool that anyone can use to prevent HIV transmission.

The topic of sex education reformation often led to participants discussing complex intergroup dynamics that could hinder attempts to educate. Hayden referred to the difficulty in re-educating older generations, which he stereotyped as “Karens and Kens”. The term ‘Karen’ (and Ken) is used to describe a (usually heterosexual) self-entitled person who often refuses to adhere to public health measures, such as mask wearing during the COVID-19 pandemic (Garcés-Conejos Blitvich, 2022). Thus, to Hayden, it is possible that some groups can be perceived as too difficult to reach, even with reformed sex education, and that it would be better to target younger people with accurate information about HIV and PrEP.

Patrick also discussed that it was important that sex education was enhanced, particularly regarding the topic of PrEP usage:

**Extract 6:**

Patrick: I think we I don't even think this conversation, or this topic is being had with people in sixth form within colleges or even within universities. In all of my academic life I have never ever been told about PrEP. It's been something I've had to learn myself and even in my degree that [was] healthcare related, I've never been taught about PrEP, even



though I've done, you know, contraceptive classes and things like this, I've never been taught about PrEP. Yeah, so I think a lot more should be done during academia which isn't being done.

Although Patrick had completed a health-related degree which included contraceptive classes, this did not include learning about PrEP. This indicates that although PrEP is an effective tool for preventing HIV transmission, awareness is still low, and sex education curricula, even at university level, fail to educate students on the risks of HIV and the benefits of PrEP. This is problematic, as university sex education is effective at changing behaviour: it has been shown to reduce sexual risk-taking, result in fewer STIs, and reduce sex motivated by alcohol and substance misuse (Reis et al., 2011).

Like Patrick, it is likely that due to sex education focussing on heteronormative practices, gbMSM have to privately seek out information on safe sex, which could lead to inaccurate perceptions of PrEP, or PrEP being perceived as taboo due to it not being discussed in sex education classes. This might be explained by PrEP's novelty, suggesting that for attitudes to PrEP to improve, it is first necessary to increase awareness of PrEP (as discussed in the previous sub-theme).

Some participants contrasted the topic of PrEP and sex education with broader societal issues, such as attitudes towards HIV during the 1980s:

**Extract 7:**

Interviewer: Do you think enough is being done to promote positive attitudes to PrEP?

Gordon: No, not at all, no, but I think that's because there's a lack of money to spend, and you know, all the public health messaging is never positive ... you know everyone got a

letter through the door about HIV and AIDS in the '80s telling them not to have sex.

Where is the letter through everyone's door now telling them that they can take this drug if they want and that will protect them against it?

Gordon highlights an important double standard in public health messaging. During the HIV/AIDS Crisis of the 1980s/90s, public health messaging (including the famous 1987 'Monolith' UK advertising campaign: [player.bfi.org.uk/free/film/watch-aids-monolith-1987-online](http://player.bfi.org.uk/free/film/watch-aids-monolith-1987-online)) focussed on aggressive awareness-raising of the dangers of HIV and encouraged people to reduce their sexual activity. GbMSM were largely blamed for and associated with HIV during the 1980s, which led to the then-Prime Minister Margaret Thatcher politicising AIDS by removing gbMSM sex education from schools (i.e., the piece of legislation known as Section 28, which banned the 'promotion of homosexuality' in UK schools until 2000 in Scotland and 2003 in England and Wales; e.g., Kollman & Waites, 2011). Thus, although political and public health messaging encouraged stigma towards gbMSM and created mass panic surrounding HIV, participants such as Gordon felt that public health organisations were unwilling to engage in the same strategies (e.g., mass leafleting) for PrEP promotion. It is possible that due to gbMSM being a minority group, Gordon felt hostility towards health bodies and felt that it was deemed acceptable for health bodies to stigmatise gbMSM but not to help alleviate misconceptions and improve knowledge surrounding HIV and PrEP on a societal level.

In sum, almost all participants felt work was needed to improve PrEP education and to extend the focus of sex education so that it also addresses non-heterosexual lifestyles. Although participants discussed different facets of education (e.g., public health messaging, school sex education, university education), accounts often led to discussion wider societal issues, such as the difficulty in re-educating older adults and a lack of interest from government and public health bodies to encourage positive perceptions of PrEP. Generally, participants felt it was necessary for

all people (including heterosexuals) to have better knowledge about PrEP. In turn, this should result in PrEP being deemed more normative on a societal level and could help minimise the stigma associated with PrEP usage.

### **6.2.2: Theme 2: *Appropriate Endorsement of PrEP***

Participants were asked whether they thought it would be beneficial for PrEP to be endorsed by celebrities or public figures. Almost all participants agreed. However, participants' opinions differed vastly on who they thought was most appropriate to endorse PrEP. Although many participants saw merit in ingroup endorsement from fellow gbMSM, it was also noted that outgroup endorsement could be more powerful and give the promotional message a broader societal reach. Finally, some participants highlighted that, irrespective of whether PrEP was endorsed by an ingroup or outgroup member, due to stigmatised perceptions of PrEP, it was necessary that endorsement of PrEP was truthful and did not promote stereotypical perceptions of PrEP or gbMSM.

**6.2.2.1: Sub-Theme 2.1: Identity and PrEP Endorsement.** Some participants discussed how ingroup (i.e., gbMSM) endorsement could be helpful for encouraging positive perceptions of PrEP. As the associations between gbMSM, HIV, and PrEP are strong, it was anticipated that ingroup endorsement may inspire gbMSM to take PrEP due to feeling that they were being advised by a member of their community.

Some participants talked about how famous gbMSM figures may be able to improve perceptions of PrEP by helping to reduce shame associated with liberal attitudes to sex and PrEP use:

#### **Extract 8:**

Billy: There are certain celebrities that I actually do follow a lot on YouTube, there's a famous drag queen, Willam Belli, yeah he's on PrEP, she talks about it all the time, she let you know 'you guys should be on it' and she makes a joke of it...she's married, she's got the husband, but she says, you know, 'I'm openly promiscuous' and she went 'don't be a dumbass, if you're going to be doing it without a condom you gotta be on PrEP', and she openly voices her opinions on it and I love it...there's no kind of pretence there, it's just what it is being the human side of it, rather than a big Corporation going 'we'll get, you know, George Clooney or whoever to say it's good so people buy it'.

Billy highlighted that he follows gbMSM celebrities online and has observed that some use their platforms to discuss the benefits of PrEP. Billy discusses a famous drag queen, Willam Belli, who has discussed on YouTube that she is openly promiscuous and therefore uses PrEP. As discussed in Study 1a (see Chapter 4), gbMSM often report elevated risk-taking as being normative within their community, and it is likely that such norms have deep cultural backgrounds (e.g., originating from before the HIV/AIDS Crisis). It is possible that a prominent figurehead among gbMSM advocating for PrEP use could increase gbMSM awareness of and education about PrEP. Billy responded positively to an ingroup member taking ownership of both liberal attitudes to sex and the importance of safe sex. Although participants often reported upholding liberal attitudes to sex, participants over neglected the importance of using PrEP alongside condoms. Therefore, it is possible that by a prominent ingroup figure taking ownership of liberal attitudes to sex in addition to safe sex advocacy, Billy felt that Willam provided positively ingroup representation. If gbMSM could respond positively to ingroup members that reflect gbMSM norms (i.e., sex-positivity) while also encouraging appropriate safe sex behaviour, ingroup members could contribute to increasing safe-sex behaviour while still being considerate of gbMSM norms. Additionally, Billy discussed how Willam had highlighted that PrEP ought to be used with a condom. Although this could initially be perceived as a judgement on those who engage in condomless sex, Billy perceives this as an

ingroup member who is knowledgeable and playful rather than judgemental, leading to Billy trusting the advice. Indeed, ingroup messages are less likely than outgroup messages to be met with suspicion and are more likely to change behaviour (Moy & Ng, 1996).

Finally, Billy discussed how PrEP endorsement may not be effective if the message was clearly coming from large corporations, indicating that large corporations may perceive PrEP marketing as a business opportunity, rather than a way to improve health. Moreover, Billy feels that that if heterosexual celebrities such as George Clooney endorsed PrEP, then the endorsement would appear inauthentic and not based on personal experience.

Simon also offered support for ingroup endorsement of PrEP, and felt that a celebrity living with HIV might be an especially effective advocate:

**Extract 9:**

Simon: I mean, if someone is straight and is on PrEP I think it's also wonderful, and I think it will be, it should be there also, but I think we have like different gay people that they're on PrEP, so they could bring it out, for example, yeah, like these guy from *Queer Eye's* Jonathan Van Ness...when he said [he has HIV] so I think he, it makes such a good, you know, thing for the community...It also helps to see that is he doing a normal life, he's releasing a TV show, every season is on Netflix, it's everywhere. Yeah, and that [HIV] doesn't impact his life, and he's you know he's still a hairstylist, he can do everything, but yeah.

Although Simon acknowledged that pro-PrEP messages from heterosexuals who use PrEP would be positive, he suggested it might be more appropriate for PrEP to be represented by ingroup (gbMSM) members. Simon discussed how *Queer Eye For The Straight Guy* presenter

Jonathon Van Ness was a positive example to gbMSM, which suggests that, for Simon, it is important that any public figure advocating PrEP use is not only an ingroup member but also positively represents the gbMSM community and their values. Due to the stigmatised associations between gbMSM, HIV, and PrEP highlighted throughout this thesis, it is important that gbMSM role models are perceived positively, so that any endorsement of PrEP does not further encourage negative perceptions of gbMSM, HIV, or PrEP. Additionally, Jonathan Van Ness is also LWHIV. This could indicate that although PrEP is taken by those who are HIV negative, Simon feels that somebody who is LWHIV might be best suited to advocating PrEP. This is interesting, as those LWHIV are frequently seen as highly stigmatised individuals (Rohleder & Gibson, 2006). It is possible that due to Jonathan Van Ness being considered by Simon to be a positive representation of the community (and a positive representation of someone LWHIV in a way that challenges extant assumptions), his position and power as a role model could mitigate this stigmatised identity. It is also possible that Simon suggested someone LWHIV to be an advocate due to an assumption that they would be knowledgeable about HIV and how to prevent it. This is consistent with perspectives from community psychology that view community members as experts, and thus as most appropriate for evoking social change (Harper & Schneider, 2003).

One participant, who was working in sexual health services, saw merit in ingroup advocacy of PrEP, but also felt it was important to consider the need for positive outgroup endorsement:

**Extract 10:**

Interviewer: Do you think it's important that those people [who endorse PrEP] are LGBT themselves?

Robert: I think it would help, because then we come into the realm of role models, and then people are easily influenced by someone they think they trust, especially if they are

in the limelight, and that person says something and it resonates with someone in particular who thinks 'oh, okay, fine if you're saying it I believe you, I'm going to go and do this'. We know that that happens, and we know that these people do have that power and that influence to do that, and if it's an [outgroup] ally sometimes that works even better because its someone who doesn't identify the same as me, and that resonates just as much as that other person, so then you get back to the power of allies.

Consistent with both Billy and Simon, Robert perceived that there could be potential benefits to PrEP endorsement by ingroup members (i.e., gbMSM), which could be attributed to a shared group identification. Moreover, it is possible that ingroup endorsement could alleviate feelings of marginalisation experienced by gbMSM due to their group being represented in a positive light (Gomillion & Giuliano, 2011; Harper & Schneider, 2003). This in turn could result in PrEP being viewed as more favourable by the gbMSM community and reduce negative perceptions surrounding PrEP users. Moreover, it could help shift normative views about PrEP held by the community so that they are more positive. As a stigmatised identity has been suggested to be a Social Curse (Bowe et al., 2019; Bradshaw & Muldoon, 2020; Kellezi, Bowe, et al., 2019), it is possible that role models may help to reduce stigmatised perceptions of gbMSM, HIV, and PrEP, which could minimise the negative effects of gbMSM's stigmatised identity on their health and wellbeing.

Although Robert saw value in ingroup PrEP endorsement, he also discussed how allies can be impactful when representing minority issues. Although gbMSM allies do not identify as gbMSM, they have chosen to align themselves with the values of gbMSM and care about the social injustices experienced by gbMSM. Thus, as allyship is a choice, it is possible to argue that PrEP endorsement by allies could result gbMSM attitude change whilst also increasing the likelihood of the message reaching non-gbMSM audiences. This is supported by findings that

allyship can be successful at reducing discrimination and evoking social change (Taylor, 2015; Warren et al., 2022b), suggesting that allies may be a helpful resource in improving attitudes to PrEP.

Although many participants perceived ingroup and ally endorsement to be beneficial, some participants indicated that outgroup representation could be more powerful:

**Extract 11:**

Peter: I think if someone like Dominic Cummings or a politician were to say they were on PrEP it would be a much bigger thing, because the difference between a politician and a celebrity is that where a celebrity will have soft influence they may have connections and some power, yeah, politicians especially the more senior they are... if a politician who views and supports us and portrays, I don't know, an antithesis of the LGBT political community... were to reveal that they were on PrEP, I think that would cause an even sort of storm about everything else around it, and sort of awareness, because you have that conflict between a lot of people may assume PrEP is for its for... gays and lefties and everything else, and then have to apply that to someone who isn't anywhere near that political community. It would be sort of jarring and that would cause a greater storm.

Although many participants suggested celebrity endorsement of PrEP would be helpful, Peter suggested that politicians who are in a position of power or authority may have greater influence. It is possible that as politicians hold formal positions of power, they would be perceived as more capable of enacting social change. Peter explored this further by suggesting that if advocacy was provided by a powerful (but unexpected) politician (i.e., right-wing), this could maximise impact of PrEP advocacy. If a figure perceived as the "antithesis" of the gbMSM



community announced that they were taking PrEP, Peter believed this would challenge perceptions of PrEP as associated with “gays and lefties”. Peter’s account would suggest that he is aware of PrEP being perceived as gbMSM-orientated, and if someone who did not align with LGBTQ+ politics advocated for PrEP, this would likely challenge perceptions of both gbMSM and PrEP, in addition to improving PrEP awareness.

Although this is a hypothetical case that is unlikely to happen, Peter felt that challenging societal norms could maximise positive perceptions of PrEP in addition to challenging perceptions of gbMSM (i.e., the idea that PrEP is only for gbMSM). As the contraceptive pill was also historically associated with promiscuity, but now is (generally) not, it is possible that there is validity to Peter’s claims. Indeed, if PrEP awareness was improved on a societal level, it is possible that this would result in a greater acceptance (and thus likely greater uptake) of PrEP.

In summary, participants who believed ingroup PrEP endorsement would be beneficial reported that it could help alleviate the negative stereotypes of PrEP users (and, by extension, people LWHIV). They also discussed how there may also be benefits to gbMSM LWHIV being advocates. Finally, it was also discussed that although celebrities may increase PrEP awareness, political and outgroup endorsement could be perceived to be more powerful through evoking social change on a societal level. This would result in challenging the stereotypes surrounding PrEP usage and HIV risk being associated with the gbMSM community, potentially leading to increased awareness and acceptance of PrEP usage.

Sometimes, participants discussed how outgroup status and power dynamics may influence the appropriateness of PrEP advocacy:

**Extract 12:**

Interviewer: Do you think it would be important that [advocates] were LGBT?

Hayden: Yeah, I think it's an LGBT drug... I think the face of that needs to be... it was almost like, you know when...Prince Harry and William did the HIV tests to show how quick it took, and it was news, and then it pissed me off because I was like 'how the fuck are you going to have HIV?'. And I know that HIV isn't a gay virus, that's not what I was saying, but I was I remember...just feeling a bit 'ugh' at it. Erm, and I think if somebody who wasn't LGBT was the face of PrEP then it would feel soulless I think.

Hayden labelled PrEP as an "LGBT drug", which would suggest he perceives PrEP advocacy would be best delivered by those who share common values with gbMSM. Hayden (who is LWHIV) also discussed how seeing members of the British Royal Family advocating for HIV testing resulted in him experiencing negative feelings. As Prince William and Prince Harry are not known to be gbMSM, it is possible that Hayden perceived outgroup advocacy for HIV testing to be inappropriate. It is also possible that due to their elevated position of power as Royal Family members, Hayden perceived that William and Harry to not even be allies of the gbMSM community. Although it is likely that engaging in televised HIV testing was aimed at reducing HIV stigma and showing it is easy to do, it is possible that due to the Royal Family living significantly different lives to most people, this attempt may have been perceived as offensive to those with an elevated stake in the issue, such as Hayden (due to him LWHIV). Thus, it is possible that Hayden did not feel represented by this stigma reduction attempt, which led to him perceiving it negatively.

Hayden also discussed how advocacy of PrEP by people outside of the LGBT community would be "soulless", indicating that although PrEP may be used by heterosexuals, some gbMSM continue to perceive PrEP as a gbMSM-orientated drug. Therefore, any attempts to widen the scope of PrEP usage need to involve awareness of the fact that although associations between gbMSM and PrEP are sometimes harmful, some gbMSM such as Hayden have also reclaimed

these associations as part of their identity. This may suggest that, when advocating PrEP use, it is necessary that individuals are mindful of the associations between gbMSM, HIV, and PrEP.

#### **6.2.2.2: Sub-Theme 2.2: The Importance of PrEP Endorsement Message Content.**

Participants also discussed the importance of PrEP endorsement (regardless of the message's source) being positive and representative of gbMSM values, rather than voicing messages that risk reinforcing stereotypes:

#### **Extract 13:**

Gordon: I see a lot of people, particularly around World AIDS Day, sort of influential figures, promote with the idea of getting tested [for HIV] and promote the idea of 'U equals U' [undetectable equals untransmittable], but again...that's more to try and sort of overcome this thing, whereas the whole idea of actually having HIV and finding out about it or catching it all that kind of stuff it's not a positive message necessarily. It's not about 'here's something you can do to protect yourself'... I think negative messaging reinforces peoples' stereotypes, erm, if that's all you see all the time, you're not doing anything to sort of counteract those stereotypes, and when those stereotypes are negative then it's what you're actually doing is making the situation worse. You're sort of embedding that stereotype further, which for the NHS or health boards to be doing that is obviously not great.

Although many influential figures may discuss HIV, including important concepts such as U=U (i.e., undetectable equals untransmittable) on World AIDS Day, Gordon expresses concern that the focus of many of these messages is about coping once a person has HIV, rather than on preventing HIV in the first place (e.g., advocacy for PrEP). Although it is important to note that

education about living safely with HIV (e.g., taking ART medication so that the virus is untransmittable) could be perceived positively by many people, Gordon highlighted that 'negative' health messaging that focuses on LWHIV could be detrimental, as it could strengthen pre-existing stereotypes about gbMSM, LWHIV and PrEP use.

Other participants also discussed the importance of diverse and thoughtful advocacy for PrEP, and the need to avoid promoting harmful assumptions about the 'type' of person who should take PrEP:

**Extract 14:**

David: You can imagine PrEP social media posts promoting its use, you know, with a half-naked man standing holding the pill or up against a wall, or however they pose this model. And I think that immediately switches off a certain proportion of the community that would be entitled and should be on PrEP, and so I think there needs to be a whole range of messages about it, a whole range of ways that the messages about PrEP are delivered. Not just in this kind of sexual seductive kind of way that I've kind of seen.

David expressed concerns that PrEP is often promoted in a sexualised manner, which may be perceived negatively by some gbMSM, who thus may opt not to take PrEP. Similar to concerns shared by Gordon, it is possible that some gbMSM may not engage with sexualised PrEP advertisements due to fears that sexualised representations of PrEP users (and thus by association, gbMSM), may be harmful to PrEP users and gbMSM. Although Study 1a (see Chapter 4) explored how gbMSM often engage in sexual risk-taking, Study 1b (see Chapter 5) indicated that gbMSM may be less likely to take ownership of their sexual behaviour if they perceive it could result in judgement from an outgroup. Therefore, it is possible that although gbMSM may engage

in sexual risk-taking, sexualised PrEP representation may lead to judgement of gbMSM from others in society, thus leading David to feel sexualised advertisements of PrEP are not suitable.

Finally, some participants argued that sexual identification was not important when discussing advocacy for PrEP. Instead, they believed that it was important that the person endorsing PrEP engaged and encouraged safe sex:

**Extract 15:**

Interviewer: Do you think that it's important that person is a member of the LGBT community [promoting PrEP usage]?

Wyatt: No, I don't actually. I think it could be I think it could be anybody as long as they're practicing safe sex and that's what they want to promote then that's fine... I don't think it needs to be someone from the community I think it could be LGBTQI it could be straight as long as they've got a positive message that's the main reason.

Wyatt's account focussed on the need for PrEP advocates values to reflect PrEP as a safe sex tool, indicating that those advocating for PrEP should be practicing safe sex. This indicates that for Wyatt (i.e., a participant with experience of PrEP usage), sexual identification was perceived as less important than ensuring a positive message of PrEP was presented, demonstrating a focus on PrEP as health orientated. Wyatt's account also alludes to the importance of authenticity in PrEP advocacy, suggesting that those representing PrEP ought to engage in safe sex behaviour and want to promote PrEP. Thus, although advocacy of PrEP may be helpful to improving awareness, Wyatt believed it was necessary for those advocating PrEP to reflect PrEP as a health-orientated tool for HIV prevention that the advocate themselves perceived to be beneficial.

In sum, advocates who identify as gbMSM or gbMSM allies were perceived by participants as particularly appropriate PrEP advocates. Celebrities are in a position of power, and thus have a wide circle of influence, and how this could be beneficial for PrEP advocacy. However, limitations of celebrities and public figures were also highlighted.

It was also deemed important that advocacy messages were positive and challenged negative stereotypes. In turn, this would result in the PrEP user identity being perceived as less stigmatised, thus increasing positive PrEP perceptions, and decreasing Social Curse processes. This illustrates that for PrEP messaging to be successful, it is necessary to consider the many subgroups of the gbMSM community and ensure that the message and the source are inclusive and varied.

### ***6.2.3: Theme 3: The Media as Detrimental to gbMSM Identity***

Participants frequently discussed how the media tried to portray gbMSM as promiscuous, which they disputed and stated was harmful (even though participants had previously spoken openly about how sexual risk-taking and sex positivity in the gbMSM community was considered normative in intragroup contexts). Moreover, some participants discussed this further to consider how the media perpetuates strong heteronormative ideals that lead to gbMSM members being judged and marginalised in society.

**6.2.3.1: Sub-Theme 3.1: Tired Stereotypes of gbMSM as Promiscuous.** Participants were asked to comment on a Huffington Post article that referred to PrEP users as “Truvada Whores” (Truvada being a common brand of PrEP in the USA). Although this article was written by a gay man (who has since amended his position on PrEP use after a HIV scare; The Huffington Post, 2017), participants were unaware of this. Participants demonstrated anger and upset, deeming the media’s influence to be harmful to the gbMSM community, and as promoting negative perceptions of PrEP. Participants often discussed how the media portrayed gbMSM as promiscuous, and how this was unjust:

**Extract 16:**

Interviewer: The Huffington Post referred to PrEP users as “Truvada Whores”, Truvada being PrEP’s brand name, so how does that make you feel as a gay man?

Peter: I’m a little bit pissed off, that’s how I feel, because...first of all, you don’t have to be on it and be having sex every week it could just be like a safety blanket. Secondly, do you know you’re essentially slut shaming people... at the end of the day, I’m a gay man who takes it. I know that that’s aimed at me yeah, but second of all its saying that again, it brushes... the whole community with the same brush. Once again, everyone who takes PrEP are ‘Truvada whores’...not people who are taking it to prevent the transmission of HIV.

Peter rejected associations between PrEP and promiscuity, instead indicating that PrEP users may opt to take PrEP as an additional level of protection against HIV. He highlighted how, as a PrEP user, he felt targeted by media depictions of PrEP. It is possible that due to the media highlighting the link between PrEP and promiscuity, Peter felt that the media were stigmatising PrEP use and neglecting the benefits (i.e., reducing HIV transmission) of it. Although Peter indicates that he was hurt by the media’s depiction of PrEP due to his own PrEP user identity, he also argued that negative depictions of PrEP could result in broader stigmatisation of gbMSM. This indicates that, due to the associations between gbMSM and PrEP, Peter believed that negative depictions of PrEP in the media could be detrimental to all gbMSM. This is especially likely as if PrEP is stigmatised by the media, which could reduce the amount of gbMSM willing to take PrEP due to not wanting to further increase the stigma experienced due to their gbMSM identity.

Other participants discussed how media presentation of gbMSM promiscuity was problematic, and how attitudes to sex needed to change:

**Extract 17:**

Gordon: Honestly, fuck those people [media]...I think PrEP doesn't encourage promiscuity, humans are going to be humans, and whether that's the argument always that gay men are more promiscuous I'm like, 'blokes think with their dicks', so if you put two guys together in a room and they fancy each other, yeah they're more likely to do something about it... gay people are going to have sex with those people, PrEP or no PrEP. It just means now that with PrEP that sex can be safer, it means it can be more open conversations about health status and it's better for everyone's mental health.

Gordon also argued that media depictions of PrEP could result in reinforcing harmful stereotypes of gbMSM and PrEP users as promiscuous. Rather than reject the associations between gbMSM and promiscuity, Gordon (re)defined promiscuity as human behaviour that was normal for men. By suggesting that promiscuity is indicative of male behaviour, it is possible that Gordon attempted to normalise perceptions of promiscuity, thus aiming to protect his (already stigmatised) gbMSM identity. As Gordon suggests that gay men would engage in sex with or without PrEP, it is possible that stigmatised depictions of PrEP use could result in PrEP-taking being perceived as less desirable, which may lead to people engaging in unsafe sex. Although Gordon argues that open conversations could be beneficial to gbMSM health and wellbeing, it is possible that he feels the benefits of PrEP are potentially undermined by negative media depictions of gbMSM and PrEP users.



Another participant acknowledged that there may be some truth to the claims made in the media. However, they felt it was necessary to reframe the narrative so that it is less harmful to gbMSM:

**Extract 18:**

Wyatt: I'm going to sound awful now, but I think there's a level of promiscuity between gay men anyway, before or after PrEP was introduced. I think it's going to be there anyway... but I do think that the age that we're living in, I think people are talking about stuff more and they're experimenting more. I think with more people coming out as bisexual and things like that...I think maybe beforehand that maybe they did it in secret, but now people are more open about it, and people are very much living their authentic self...whether PrEP is, er, making people more promiscuous, I think...you have to look at people being more themselves and not hiding away from who they really are.

Unlike most participants, Wyatt acknowledges that there could be an element of truth to the claims in the media, thus indicating an awareness of how gbMSM sexual norms may not reflect wider societal attitudes to sex. However, Wyatt balances this with an acknowledgement that wider social acceptability of non-heterosexual sexual orientations has led to more people feeling comfortable about disclosing their sexuality. Wyatt's account has implications for the presentation of PrEP in society. Although it is possible that PrEP can dramatically reduce the risk of HIV (and thus subsequent stigma associated with a LWHIV identity), the media arguably promote outdated and traditionalist views that do not represent modern views of sex and relationships, and thus could be seen to exacerbate gbMSM and PrEP-user stigma. However, due to advancements such as PrEP, alongside increased societal acceptance of non-heterosexual

lifestyles, it is possible that gbMSM PrEP-users feel more able to engage in liberal attitudes to sex without fear of HIV transmission.

**6.2.3.2: Sub-Theme 3.2: Media Fosters Heteronormativity.** When questioned about the media presentation of PrEP users as “Truvada Whores”, many participants made assumptions that the article was written by a heterosexual. Participants discussed how gbMSM are often the target of attack from media outlets. This led to strong feelings of anger and disappointment:

**Extract 19:**

Ross: The media exploits women like through slut shaming, and they're doing the same with gay men, and like, who is it, who is this coming from, is it coming from straight white middle class heterosexual men that are writing these things about I guess minorities? And like I guess I feel angry because the same attitudes aren't portrayed against like men that have casual sex with women, like that's not openly portrayed in the media, so why it just feels like another target against all the difficulties LGBT people have experienced already... it will bring about debate and conversations and maybe their lack of understanding of what it's for, what it's about [PrEP], and maybe their lack of sex positive attitudes, maybe I don't know.

Although the present chapter has already highlighted that the term “Truvada Whore” was coined by a gbMSM journalist, Ross assumed that the article was written by an outgroup member, possibly due to gbMSM often being aware of the stigmatised associations connected to their group identity. Ross also discussed how he perceived the media to target minorities and to possess double standards, where some groups' behaviour (e.g., heterosexual men), is judged differently from others (e.g., gbMSM). As the media were anticipated to judge negatively gbMSM

behaviour, Ross suggested PrEP use may be criticised, due to it being associated with gbMSM promiscuity. As Study 1 has explored, gbMSM often report more liberal attitudes to sex than heterosexuals (Glick et al., 2013). It is possible that Ross perceived media depictions of PrEP to be hetero-centric and harmful to gbMSM, leading to Ross feeling marginalised and under-represented. Media presentations of gbMSM as a minority to be stigmatised could thus result in gbMSM feeling even more marginalised, stigmatised, and socially isolated (I.e., Social Curse processes; Kellezi et al., 2019).

Other participants also reported that they believed the media promotes the ideals of straight white men:

**Extract 20:**

Interviewer: Why do you think that the media has created that [negative] image of PrEP use?

Billy: ...It's terrible because I think especially media outlets should not be putting out that kind of terminology to be honest... I think it's disgusting, it just completely casts us...back like 20-30 years, because then people just turn around and think that we're more promiscuous than the straight community, and that's not the case at all, but when you get big media outlets like that saying things like that, that's damaging, its hurtful... I think we're all getting a bit sick of the straight community branding us as something that we're not, and I think so many people like I have so many friends who, they just automatically assume that if you're gay you sleep with anything.

Like Ross, Billy also assumed that the article was written by a heterosexual man, which would further support meta-stereotypical views that the media perceive gbMSM as promiscuous.

Billy argued that the article in question paralleled media depictions during the HIV/AIDS Crisis, when gbMSM were heavily persecuted (Gerald, 1989). Although societal perceptions of gbMSM have largely improved since the HIV/AIDS Crisis, it is possible that Billy felt that negative depictions of PrEP could help foster negative associations between gbMSM, HIV, and PrEP, leading to gbMSM experiencing increased stigma. It is possible that there is a meta-perception that HIV and AIDS are still blamed on the gbMSM community by outgroups, and that this is rooted in the history of the HIV/AIDS Crisis itself. Billy also believed that outgroups perceive gbMSM to be more promiscuous than other sexual identity groups. It is possible that frequent casual sexual activity may be seen as normative by gbMSM but is rejected by gbMSM when it is suggested by outgroup media sources, as such reporting could lead to increased gbMSM judgement and stigmatisation.

Participants also considered the role of political viewpoints and how these may influence media perceptions of gbMSM:

**Extract 21:**

Interviewer: Yeah, why do you, why do you think that the media creates that image?

Gordon: Because of the kind of heteronormative ideas of the nuclear family and all that kind of stuff. You know, it is conservative, it's all conservative thinking. You know, the whole idea of being sex positive is, um, not very in keeping with prevailing trends in society at the moment. It reinforces this idea of what it is to be normal and to have a happy relationship, um, whereas, you know, the most successful happy strong relationships I know in the gay community, you know, in terms of friends I have are from people who don't have a traditional nuclear family. You know, 2.4 kids or all that kind of stuff, because we have different expectations placed on the community. We find different things fulfilling.

Gordon suggested that the media depict negative attitudes towards gbMSM and PrEP use due to the media representing conservative values. Although gbMSM is a diverse group and some gbMSM are likely to uphold conservative values, it is possible that Gordon perceives the conservative beliefs of the media to oppose the sex-positive values of gbMSM. This is reflected through Gordon discussing the traditionalist values depicted and accepted as normative by the media. This leads to Gordon suggesting that the values of the media (and society) reflect heteronormative lifestyles, which does not align with his perception of gbMSM. Gordon suggests the media may not comprehend gbMSM sex positivity, and also may not understand that heteronormative views may not reflect the gbMSM community.

One participant demonstrated hostility towards the media due to perceiving that it actively discriminates against gbMSM:

**Extract 22:**

Hayden: The LGBT community has always historically been a pinpoint for hatred within the media. Like, in the 90s The Sun [newspaper] did a campaign where they said they would pay for anyone's plane tickets to fly them out of the UK if they had HIV. So, historically it's been anti-LGBT, and I saw when the PrEP thing was coming up, and I saw the whirlwind that it had of people going 'it's disgusting, we as taxpayers shouldn't be paying for that'. And then I was like 'hang on a minute fucking Karen, we've been paying for your morning-after pill for as long as I can imagine and, you know what, the contribution from, the tax contribution from the LGBT and the pink pound make the comparison to what you're bringing in'. Actually, we get very little, we get very little from that piece of the pie so let us fucking have our PrEP.

Hayden also assumed that the term “Truvada Whore” originated from a heteronormative depiction of PrEP-users, suggesting that Hayden did not anticipate this type of judgement from within the gbMSM community. As Hayden discussed historical media depictions of those LWHIV, it is possible that Hayden may anticipate the media to judge PrEP due to their treatment of gbMSM during the HIV/AIDS Crisis. Suggesting that ‘Karens’ (i.e., derogatory slang to depict an uncompromising heterosexual woman of privilege) would refuse to fund PrEP suggests that Hayden felt that there is a group of problematic heterosexuals, rather than all heterosexuals, who are discriminatory towards gbMSM. Hayden compares the morning after pill to PrEP, suggesting that gbMSMs should be entitled to PrEP in the same way that heterosexual women are entitled to the morning after pill, which is also taken due to engaging in unprotected sex. This could suggest that as a member of a minority group (gbMSM), Hayden feels marginalised and feels a sense of social injustice surrounding PrEP use being stigmatised. Hayden further justifies PrEP access by highlighting how society benefits from gbMSM’s money (“*pink pound*”), and therefore gbMSM should benefit from their contribution to the economy. Hayden’s account suggests that he feels that gbMSM are treated unfairly and society caters more to heterosexuals and heteronormative ideals than to those of gbMSM.

### **6.3: Study 1c Summary**

Study 1c explored how a combination of both intragroup and intergroup processes may influence gbMSM attitudes to PrEP. Adopting a social identity approach to explore societal issues experienced by gbMSM provided insight into potential group-based processes underpinning PrEP, while integrating inductive analyses also allowed participants experiences to further understanding by contributing novel insights.

A key topic in interviews (explored in Theme 1) was the importance of PrEP being perceived positively and understood better, both within the gbMSM community and within

society more generally. Although participants felt that PrEP was underrepresented in public spaces such as pharmacy-based shops, there are practical reasons for this (e.g., due to PrEP requiring a prescription, rather than being available over the counter). However, it is possible that advertising PrEP in public spaces may help raise awareness, which would be anticipated to lead to wider acceptance of PrEP. Theme 1 also highlighted that gbMSM felt that sex education often neglected gbMSM-orientated sex, in addition to not focussing on the importance of protection against HIV. It was suggested that teaching young people about PrEP would raise awareness, but also could help reduce negative associations between gbMSM and PrEP. Indeed, if PrEP education would be taught to all adolescents, it is possible that this may reduce negative associations between gbMSM and HIV, and in turn lead to PrEP being perceived more positively in society.

Theme 2 explored how gbMSM often had opposing beliefs about how PrEP should be promoted and endorsed. For many participants, it was argued that ingroup endorsement could be helpful, as PrEP is perceived as a gbMSM-orientated drug, and thus gbMSM advocates are likely to be listened to. However, others noted that although ingroup representation may be helpful, it is possible that allies (i.e., those who do not share gbMSM's minoritised status but advocate for their rights and values) could have a broader societal influence. Some participants also discussed, how due to PrEP being perceived as a gbMSM-orientated drug, it is possible that advocates from groups that oppose the core beliefs and values of gbMSM would provide the most impact. Although this was provided as a hypothetical example, it may suggest that some participants felt it was necessary for associations between gbMSM and HIV (and by extension PrEP) to be removed for PrEP to be perceived in a more positive light. Finally, although participants highlighted the role of identity in PrEP advocacy, they also explained that messaging surrounding PrEP must be positive and should avoid reaffirming negative stereotypes of gbMSM.

Theme 3 highlighted that the media could be a potential source of harm to gbMSM. It was often noted that the media did not understand gbMSM norms, which led to concerns that the media portraying gbMSM and PrEP users in a negative light. This is a longstanding issue, as

gbMSM have always been a target by the media. The media are also very well known to distort perceptions of minority and low-status groups, such as women. Therefore, it may be difficult to do something about it, but it is important to emphasise that the media are perpetuating heteronormative ideals onto gbMSM, which is likely exacerbating stigma. The media are also associated with heterosexuals, which means that that the influence of the media may be additionally harmful because it leads to gbMSM believing that all heterosexuals are judging gbMSM. Such generalisations could exacerbate intergroup hostility and lead to challenging intergroup interactions for gbMSM.

#### **6.4: Study 1 General Discussion**

Study 1 adopted a social identity approach (Tajfel & Turner, 1979) to address understudied group-based processes that may influence gbMSM attitudes to PrEP. By adopting a qualitative methodology, it was possible to flexibly explore intragroup (see Chapter 4) and intergroup processes (see Chapter 5), including how intragroup and intergroup processes may interact to drive broader societal topics (see Chapter 6). Study 1's findings indicated that group-based processes may be helpful for understanding gbMSM attitudes to PrEP, highlighting important focus points for future research. Study 1 aimed: i) To explore the sexuality-related norms of the gbMSM community and consider how participants perceive these as impacting upon attitudes to PrEP (i.e., thesis aim 1), ii) To explore participants' experiences of ingroup-related stigma, and their perceptions of how these impact gbMSM's attitudes to sexuality, HIV, and PrEP (i.e., contributing to thesis aim 2, and iii) To advance theoretical understandings of how groups may benefit and harm health (i.e., contributing to thesis aim 3). The present chapter will now consider each of these aims prior to discussing the strengths, limitations, and future directions of the present research.

##### ***6.4.1: Addressing Study 1 Aim 1: gbMSM Norms and Shared Beliefs***



The relevance of gbMSM norms was highlighted throughout Study 1. Indeed, although gbMSM may take ownership of liberal attitudes to sex, it is possible that, due to fear of judgement from relevant outgroups (e.g., healthcare professionals), gbMSM may attempt to reattribute their risk-taking behaviour and reject associations between gbMSM and promiscuity. It is possible that due to belonging to a minority group, participants feared that public ownership of labels such as 'promiscuous' could result in further stigmatisation. It could be suggested that participants enacted a form of social creativity (Tajfel & Turner, 1979), such that highly risky sexual behaviour was reframed as being 'sex-positive' to help enhance outgroup perceptions of gbMSM. However, although reframing risky behaviour as 'sex-positive' could be anticipated to enhance gbMSM's minoritised status, it is also argued that reframing behaviour in this way could conceal the extent and prevalence of gbMSM risk-taking, thus acting as a Social Curse. Although reframing their behaviour so that it is likely to be perceived as more socially acceptable could conceal sexual risk-taking, it is possible that gbMSM felt it was necessary to attempt to enhance their group's status by reducing harmful associations attached to gbMSM (e.g., promiscuity) and the subsequent stigma experienced due to these associations. Although previous gbMSM and PrEP research has often neglected the role of group processes, the present study leads to the conclusion that the relationship between gbMSM identification and wellbeing is complex and nuanced.

Attempts to address gbMSM sexual risk-taking could be further complicated when acknowledging suggestions that gbMSM may engage in sexual risk-taking as a culturally significant representation of liberation and defiance stemming from the HIV/AIDS Crisis (Crossley, 2004). Thus, although gbMSM may engage in norms that could result in sexual health consequences (e.g., HIV transmission), it is possible that this unhealthy norm is central to gbMSM identity, and thus could act as a Social Curse. This idea of unhealthy norms harming group members' health has previously been explored in other social identity contexts (e.g., although African American dietary norms may lead to physical health problems, such norms are culturally significant, and thus attempts to encourage behaviour change could lead to a loss of the beneficial resources

associated with group membership and group identification; Airhihenbuwa et al., 1996; Beagan & Chapman, 2012). Therefore, although Study 1 has highlighted the importance of gbMSM sexual behaviour norms, perceiving gbMSM identification as either purely detrimental or purely beneficial to wellbeing is reductionistic, with a more nuanced and culturally sensitive approach being necessary.

#### **6.4.2: Addressing Study 1 Aim 2: gbMSM, HIV, and PrEP Related Stigma Processes**

As stated in the rationale for this thesis (see Chapter 3), although research, healthcare organisations, and charities often emphasise the importance of reducing stigma, the nature of stigma processes underpinning gbMSM attitudes to PrEP remain understudied. The findings of Study 1 suggest that although gbMSM may not report experiencing blatant discrimination in healthcare settings, they often anticipated that they would be stigmatised, frequently using meta-perceptions to gauge how relevant outgroups such as heterosexuals and healthcare professionals would perceive both gbMSM and PrEP users. It is possible that, due to their minoritised status, gbMSM still anticipate that they will be judged negatively in healthcare settings. Moreover, due to the treatment of gbMSM during the HIV/AIDS Crisis of the 1980s/90s, it is argued that intergroup distrust may be enduring, with historical depictions of healthcare professionals' perceptions of gbMSM influencing gbMSM's current help-seeking behaviour. Even though participants rarely reported experiencing stigma, anticipated stigma could still be perceived as problematic to health. Indeed, it has been established that anticipating stigma can result in detrimental effects to both health and wellbeing (Biello et al., 2017; Chaudoir & Quinn, 2016; Earnshaw et al., 2012).

#### **6.4.3: Addressing Study 1 Aim 3: GbMSM and SIAH Knowledge**

As stated, the primary aim of the research presented in this thesis is to explore how group-based processes may underpin gbMSM attitudes to PrEP. Although research has identified the importance of identity for understanding gbMSM attitudes to PrEP (e.g., Jaspal et al., 2019; Jaspal & Daramilas, 2016; Williamson et al., 2019), group-based processes remain understudied.

Study 1 addressed this shortcoming by illustrating the relevance and appropriateness of the SIAH for enriching understandings of gbMSM attitudes to PrEP. However, the present research also provides insight into the nuances of how group identification may be simultaneously beneficial and detrimental to wellbeing (i.e., contributing to thesis aim 3).

Study 1's findings offer support for adopting a SIAH underpinning in future research exploring sexual minorities, indicating that intragroup, intergroup, and wider societal processes may be explained by social identity processes. As discussed in Chapter 3, sexual minority groups are often underrepresented in SIAH research. The present research illustrates the suitability of applying a SIAH framework to understand the attitudes and behaviours of minority groups such as gbMSM. Indeed, a SIA approach enabled the exploration of group norms, in addition to also highlighting the perceived difficulties faced by gbMSM in intergroup settings due to their minoritised identity. Moreover, as gbMSM are often associated with HIV, their minoritised status is further stigmatised, which can be argued to perpetuate negative perceptions of gbMSM.

Although Study 1 has explored one context whereby a minoritised identity becomes attached to a stigmatised disease or virus, similar examples, such as East-Asian populations' societal associations with COVID-19 (Elias et al., 2021), have been observed. Therefore, the present research suggests that the SIAH framework is likely to be a suitable underpinning approach for exploring the stigma experienced by a range of minoritised populations who find themselves associated with specific diseases/illnesses.

Although the qualitative methodology underpinning Study 1 arguably contradicts notions of generalisability (e.g., Braun & Clarke, 2021), it is still necessary to emphasise issues of diversity and representation. Due to the use of opportunity sampling, Study 1 primarily involved recruiting participants who were white. As Study 1 highlighted, some participants who came from different cultural backgrounds (e.g., Muslim), often reported additional challenges due to conflicts between their group identifications. As Study 1 relied on participants emailing the researcher to indicate

their interest in participating, it is possible that non-white participants may have felt that a white researcher could not adequately represent their lived experiences. As PrEP is aimed at all gbMSM regardless of background, this would suggest that further research is necessary to explore the relationship between a gbMSM identity and other co-existing identities (e.g., religious identity) to gain a richer insight into gbMSM attitudes to PrEP.

Additionally, due to opportunity sampling leading to recruitment from friendship groups, many participants were of a similar age to the researcher. It is anticipated that age would be a highly influential factor in determining gbMSM attitudes to PrEP, due to younger gbMSM having no lived experiences of the HIV/AIDS Crisis. Although the present study was originally designed with the intention of reaching out to sexual health clinics to support with participant recruitment, this was not possible due to COVID-19 lockdowns (see Chapter 9), thus limiting the ability to participants from a broader range of backgrounds for Study 1 (although it should be noted that gbMSM who are unwilling to seek sexual healthcare may still be inaccessible via this method of clinic-supported recruitment). Thus, the findings of Study 1 indicate that further research exploring gbMSM attitudes to PrEP must be mindful of age as a potential factor that may influence perceptions of gbMSM, HIV, and PrEP.

Additionally, although a qualitative exploration of gbMSM attitudes to PrEP allowed for an in-depth analysis of gbMSM's experiences, qualitative research cannot make causal claims and is unable to systematically analyse findings. As PrEP is a medical tool, it is argued that increasing the applicability of the present research is highly necessary, such that research can more proficiently inform interventions and healthcare strategies designed to improve gbMSM attitudes to PrEP. Therefore, although Study 1 offers novel support for the importance of group-based processes underpinning gbMSM attitudes to PrEP, more research is necessary to further explore the relationships between variables such as gbMSM identification, attitudes to PrEP, and wellbeing. As quantitative methodology can appropriately comment on the relationship between variables, it is

now necessary to further elaborate on Study 1 findings and quantitatively explore gbMSM attitudes to PrEP.

## **Chapter 7: Study 2a: Cross-Sectional Analyses of gbMSM and Attitudes to PrEP**

### **7.1: Study 2 Rationale**

The present empirical chapter presents Study 2, which continues the exploration of gbMSM attitudes to PrEP. It expands on Study 1's findings by using a quantitative online survey to cross-sectionally (Study 2a) and longitudinally (Study 2b) explore relationships between key variables identified in Study 1. As discussed in Chapter 3, an exploratory sequential mixed-methods approach (e.g., Creswell et al., 2003) is necessary in the context of exploring gbMSM attitudes to PrEP through a SIAH lens (See Chapter 3). Indeed, although Study 1 provided data on participants' rich lived experiences, a systematic analysis that enables exploration of statistical relationships between variables is required when applying a SIAH lens to PrEP, since strategies used to increase uptake and visibility of PrEP (or any drug) must effectively target the wider population. Thus, unlike qualitative research, the cross-sectional data analysed for Study 2a provides helpful insights relationships between variables (Busk, 2005). Moreover, Study 2b provides a longitudinal exploration of how Time 1 (T1) variables predict variables at later time-points, allowing for conclusions to be drawn regarding change over time and the temporal ordering of variables (e.g., Warner Schaie, 2005). In sum, Study 2 provides an examination of variables of interest identified in Study 1, and the extent to which these predict gbMSM's attitudes to PrEP, as well as their health/wellbeing.

### **7.2: Study 2 Hypotheses**

Study 1 illustrated that attitudes to PrEP are often far more nuanced than previously suggested (e.g., Jaspal & Daramilas, 2016), and although prior research failed to address the topic through a SIAH lens, gbMSM health attitudes are likely to be underpinned by intragroup, intergroup, and broader societal processes. This indicates the suitability of the SIAH (Haslam et al., 2018; Jetten et al., 2017, 2012) as a lens through which to study gbMSM attitudes to PrEP. Study 1 also acted as a scoping tool, highlighting variables discussed by interviewees. These variables of

interest were thus measured and examined in Study 2, and the predictions regarding them are summarised below. All predictions provided will be tested both cross-sectionally (Study 2a) and longitudinally (Study 2b: see Chapter 8), although methods for both Studies 1a and 2b will be discussed in this chapter for brevity.

### **7.2.1: Strength of GbMSM Identification and Attitudes to PrEP**

Across the period of writing this thesis, guidelines on NHS patients' PrEP eligibility have been modified (e.g., NHS, 2023), leading to PrEP (theoretically) being available to all, rather than only to 'high-risk' groups such as gbMSM (The UK Collaborative HIV Cohort Steering Committee, 2004). Although awareness-raising campaigns have been more inclusive recently, PrEP is often still perceived as a gbMSM-orientated drug embedded into gbMSM culture (Heredia & Goldklank, 2021). Moreover, although other populations such as transgender women have been encouraged to take PrEP, associations between gay men and PrEP have evoked concerns that PrEP usage could lead to transgender women being associated with gay men, even though they identify as women (Sevelius et al., 2016). Thus, the strong cultural connections between gbMSM and PrEP suggest that PrEP use is regarded as being somewhat normative among the gbMSM community.

These observations lead to Study 2's first hypothesis. Since group members who identify strongly with the ingroup are likely to behave in ways that are consistent with the group's norms (e.g., Hogg & Reid, 2006; White et al., 2009), H7.1a stated *that strength of gbMSM identification will positively predict attitudes to PrEP.*

**7.2.1.1: Mediating effect of personal education about PrEP on the relationship between gbMSM identification and PrEP attitudes.** It was also predicted (H 7.1b) that *the relationship between strength of gbMSM identification and attitudes to PrEP described in H7.1a will be mediated by perceived level of personal education about PrEP, such that gbMSM identification will positively predict perceived level of personal education about PrEP, which in turn will positively predict attitudes to PrEP.* This was predicted because of the aforementioned cultural connections

between gbMSM and PrEP, and the fact that PrEP-taking is likely to be considered normative within the gbMSM community. Since group members who identify strongly with the ingroup are likely to be interested in learning about the groups' (Hogg & Reid, 2006) and receiving education about PrEP is likely to enhance attitudes towards PrEP (Grenfell et al., 2022), it was thus predicted that gbMSM identification would positively predict personal education about PrEP, which in turn would positively predict attitudes to PrEP.

### **7.2.2: Strength of GbMSM Identification and Health/Wellbeing**

Although this thesis highlighted gbMSM as being a stigmatised group (i.e., often associated with Social Curse processes; e.g., Bowe et al., 2020; Cruwys & Gunaseelan, 2016), gbMSM remain understudied within the SIAH literature. Moreover, SIAH research has highlighted that the relationship between identification and wellbeing is often complex, with nuanced interplay between Social Cure and Curse processes (Hogg et al., 2022; Muldoon et al., 2019; Wakefield et al., 2019). This suggests that although a stigmatised identity, gbMSM identification may not always be associated with poor wellbeing outcomes. Indeed, as gbMSM's stigmatised identity is often rooted in judgement and prejudice, gbMSM group identification may lead to positive wellbeing outcomes due to societal rejection fostering identification (Rejection-Identification Model, Branscombe et al., 1999). Furthermore, it has been well established that group identification is associated with better wellbeing outcomes (e.g., Cruwys et al., 2013, 2014; Haslam et al., 2016; Jetten, Haslam, & Haslam, 2012a, 2012b; Reicher & Haslam, 2006; Sani, 2012; Wakefield et al., 2020), leading to H7.2a: *strength of gbMSM identification will positively predict favourable wellbeing outcomes (lower levels of depression, anxiety, stress, and loneliness)*.

These wellbeing measures were selected for Study 2 due to their appropriateness to gbMSM experiences, as highlighted by Study 1. They were also chosen in light of previous literature on topics such as gbMSM experiences of HIV, threat and risk of HIV exposure, and stigma and discrimination of gbMSM (i.e., as a group), and of HIV and PrEP (i.e., due to the 'stigma



by association' relationship discussed in Chapter 2: e.g., Adam et al., 2005; Bernays et al., 2017; Bragazzi et al., 2022; Burns et al., 2012; Chaudoir & Quinn, 2016; Cole et al., 1996; Cramer et al., 2017; Earnshaw et al., 2015, 2020; Flentje et al., 2020; Gordijn & Boven, 2009; Lin et al., 2022; Logie et al., 2012; Watts & O'Byrne, 2019). Although not a direct measure of health, loneliness was included due to the well-documented SIAH research exploring the relationship between loneliness and health (e.g., Wakefield et al., 2020). Moreover, gbMSM as a stigmatised and minority group have often been reported to experience loneliness and isolation (e.g., Lin et al., 2022).

#### **7.2.2.1: Mediating effect of social support on the relationship between gbMSM**

**identification and wellbeing.** As established earlier, group identification is often a predictor of health and wellbeing outcomes; a relationship mediated by group-based resources such as social support (e.g., Haslam et al., 2016; Haslam et al., 2005). Stigmatisation of group identity has often been reported to negatively affect wellbeing and health outcomes (e.g., Bragazzi et al., 2022; Brooks et al., 2020; Earnshaw et al., 2020). Thus, aligning with SIAH research, it is anticipated that group identification (albeit with a stigmatised group), may lead to members having access to important resources such as social support that can buffer against negative effects of stigma. These observations lead to H7.2b: *the relationship between strength of gbMSM identification and favourable wellbeing outcomes outlined in H7.2a will be mediated by gbMSM social support, such that gbMSM group identification will positively predict gbMSM social support, which in turn will negatively predict depression, anxiety, stress, and loneliness.*

#### **7.2.2.2: Mediating effect of personal control on the relationship between gbMSM**

**identification and wellbeing.** Experiencing a sense of personal control is associated with engaging in positive health behaviours (e.g., Compas et al., 1991; Granzow, 2007; Relke et al., 2022). Moreover, in addition to social support, SIAH research has highlighted perceived personal control as a mediator of the relationship between group identification and wellbeing (e.g., Greenaway et al., 2015). Thus, although research has not explored this relationship with a SIAH lens, it is

plausible that increased gbMSM identification may be associated with greater perceived personal control and, in turn, better wellbeing outcomes. This is further supported by how gbMSM experiences of healthcare (e.g., using meta-stereotypes to make sense of interactions with clinicians) often highlight the importance of feeling in control of one's perceptions of the healthcare interaction, as well as one's individual healthcare outcomes (e.g., Gordijn & Boven, 2009). These observations lead to H7.2c: *the relationship between strength of gbMSM identification and favourable wellbeing outcomes outlined in H7.7.2a will be mediated by perceived personal control, such that gbMSM group identification will positively predict perceived personal control, which in turn will negatively predict depression, anxiety, stress, and loneliness.*

### **7.2.3: Meta-perceptions of GbMSM and Wellbeing**

As previously stated, stigma is often outlined as a concern in the context of gbMSM attitudes to PrEP. However, the processes likely underpinning such stigma is often inadequately considered. Study 1 offered insight by exploring how anticipated stigma was often reported, with participants using meta-stereotypes and meta-perceptions to make sense of their interactions with service workers. As PrEP is only available through clinics (requiring regular appointments), it is necessary to emphasise the importance of positive interactions for those seeking/taking PrEP. This is especially pertinent among gbMSM, who often experience strained relationships with healthcare workers (e.g., Fuzzell et al., 2016; Gravett et al., 2020; Jittimaneet et al., 2009; McKeown et al., 2012; McNeill et al., 2021; North et al., 2022; Ogden et al., 2020; Castro et al., 2019; Watts & O'Byrne, 2019). The complexity of gbMSM and healthcare workers' relationships, in addition to their vital role in PrEP uptake, further emphasises the importance of exploring healthcare workers as a relevant and necessary outgroup, especially in the context of seeking/receiving sexual healthcare, which itself is often highly stigmatised (Biello et al., 2017; Gordijn & Boven, 2009; McKeown et al., 2012).

Due to the established and arguably historically rooted (See Chapter 2) negative relationship between gbMSM and healthcare workers, it would be anticipated that this would be reflected in gbMSM meta-perceptions of healthcare professionals (i.e., the ways in which gbMSM consider themselves to be perceived by healthcare workers). There is also evidence suggesting that negative meta-stereotypes can harm ingroup members' health/wellbeing (Fasel et al., 2021; Thöni et al., 2022). These observations lead to H7.3a: *the belief that healthcare workers hold negative perceptions of gbMSM will be a negative predictor of wellbeing outcomes (higher levels of depression, anxiety, stress, and loneliness).*

**7.2.3.1: Serial mediating effect of stigma consciousness and loneliness on the relationship between meta-perceptions of gbMSM and wellbeing.** Although meta-perceptions/stereotypes are complex, they primarily function to provide a representation of how an individual ingroup members (e.g., gbMSM) anticipate themselves to be perceived by an outgroup member, such as a healthcare worker (Carlson & Barranti, 2016). Indeed, activation of meta-stereotypes/meta-perceptions is especially likely when the outgroup is perceived to be more powerful than the ingroup, because it allows the ingroup to reflect on how they might be perceived by a high-status outgroup who controls resources, imposes rules, etc. (Lammers, Gordijn, & Otten, 2008). Study 1 supported this by showing how participants were sometimes aware of judgement from staff (e.g., in a clinic setting), and often used meta-perceptions to navigate difficult help-seeking scenarios. Study 1 findings are supported by meta-stereotype research, whereby meta-perceptions can be useful in understanding stigma processes (e.g., Gómez, 2002). Thus, since individuals (such as gbMSM) may use meta-perceptions to better understand how they are likely to be perceived by relevant outgroups, as well as to help them manage unfair power dynamics, it would be anticipated that negative meta-perceptions by healthcare workers of gbMSM would be associated with increased gbMSM stigma consciousness. Moreover, meta-stereotypes and stigma consciousness result in loneliness (Gordijn & Boven, 2009), suggesting that stigma consciousness would be positively associated with loneliness.

Loneliness also harms wellbeing (e.g., Wakefield et al., 2020). These observations lead to H7.3b: *the negative relationship between the belief that healthcare workers hold negative perceptions of gbMSM and wellbeing outcomes described in H7.3a will be serially mediated by stigma consciousness and loneliness, such that the belief that healthcare workers hold negative perceptions of gbMSM will positively predict stigma consciousness, which in turn will positively predict loneliness, which will positively predict wellbeing outcomes as indicated in earlier in H7.2a (lower levels of depression, anxiety and stress).*

#### **7.2.4: Meta-perceptions of PrEP Users and Wellbeing**

GbMSM often report experiences whereby PrEP usage has been associated with sexual stereotyping (promiscuity), risk-compensation (PrEP use will lead to additional risk-taking due to providing HIV protection), and judgement (e.g., Rojas Castro et al., 2019). This was highlighted in Study 1, with participants often reporting their beliefs that healthcare workers would perceive PrEP users negatively (even if no negative judgement occurred). Although it is anticipated that Study 2 will recruit relatively few participants actually taking PrEP (predominantly due to the drug's relative novelty, but potentially also because of aspects such as stigma), this is not considered to limit the data that can be obtained. Indeed, as PrEP uptake is still relatively low, it is necessary to highlight how gbMSM do not currently taking PrEP anticipate PrEP users to be perceived by healthcare providers, as this could impact their likelihood of requesting PrEP in the future. PrEP has been identified by gbMSM as stigmatised, with research suggesting that attitudes to gay men may mediate attitudes to PrEP (e.g., Biello et al., 2017; Jaspal et al., 2019; Jaspal & Daramilas, 2016; Puppo et al., 2020). Thus, the need to explore how meta-perceptions of PrEP users by healthcare professionals may predict gbMSM wellbeing has led to H7.4a: *the belief that healthcare workers hold negative perceptions of PrEP users will be a negative predictor of wellbeing outcomes (higher levels of depression, anxiety, and stress).*

#### **7.2.4.1: Mediating effect of stigma consciousness and loneliness on the relationship**

**between meta-perceptions of PrEP users and wellbeing.** As highlighted in H7.3b, Study 1 participants were sometimes faced with anticipated or experienced stigma (particularly those with experience of PrEP usage). Thus, although meta-perceptions were useful in understanding their stigmatised interactions, participants still reported feelings of disappointment, frustration, and distress. Moreover, negative meta-perceptions can predict poor wellbeing, as indicated by research exploring how perceived mattering (i.e., whether one feels that one matters to other people) predicts HIV patients' health-related outcomes (Matera et al., 2021). These observations lead to H7.4b: *the negative relationship between the belief that healthcare workers hold negative perceptions of PrEP users and wellbeing outcomes described in H7.4a will be serially mediated by stigma consciousness and loneliness, such that the belief that healthcare workers hold negative perceptions of PrEP users will positively predict stigma consciousness, which in turn will positively predict loneliness, which shall positively predict wellbeing outcomes, as outlined in H7.4a (lower levels of depression, anxiety and stress).*

#### **7.2.5: GbMSM Discrimination and Wellbeing**

Study 1 illustrated examples of meta-perceptions (where gbMSM believed they were perceived favourably/unfavourably by healthcare professionals), and direct discrimination. For instance, participants often described how they perceived healthcare workers as discriminating against them due to their sexual orientation. Moreover, discrimination is associated with poor wellbeing outcomes (Branscombe et al., 1999; Burns et al., 2012; Harper & Schneider, 2003; Lee et al., 2016; McGarrity et al., 2013; Rice et al., 2022; Ruben et al., 2019). These observations led to H7.5a: *there will be a negative relationship between perceived discrimination of gbMSM from healthcare workers and wellbeing outcomes (higher levels of depression, anxiety, stress, and loneliness).*

**7.2.5.1: Mediating effect of gbMSM identification and perceived personal control on the relationship between gbMSM discrimination and wellbeing.** It was also predicted (H7.5b) that

*two mediators would serially mediate the relationship between perceived discrimination of gbMSM from healthcare workers and wellbeing outcomes: strength of gbMSM identification and perceived personal control.* Specifically, it was predicted that *perceived discrimination of gbMSM from healthcare workers would positively predict strength of gbMSM identification*, consistent with how perceived discrimination positively predicts identification (Rejection-Identification Model, Branscombe et al., 1999). In turn, it was predicted that *strength of gbMSM identification would positively predict perceived sense of personal control*, consistent with findings illustrating that group identification positively predicts sense of personal control (Greenaway, Haslam, et al., 2015). Moreover, it was predicted that *perceived sense of control would positively predict wellbeing (lower depression, anxiety, stress, and loneliness)* due the buffering effects of perceived personal control on ill-health (e.g., Gerstorf et al., 2014).

#### **7.2.6: PrEP Discrimination and Wellbeing**

Study 1 highlighted that PrEP stigma relates to wider socio-political issues such as the HIV/AIDS Crisis. Although PrEP-related stigma is well-documented, stigma processes underpinning attitudes to PrEP are poorly understood. Moreover, as sexual healthcare workers are actively involved in PrEP prescribing, it is important to explore whether perceived discrimination from healthcare workers surrounding PrEP usage could harm wellbeing. Moreover, perceived judgement from healthcare staff (i.e., perceptions of gbMSM PrEP users as risk-takers) could be detrimental to service engagement (e.g., Calabrese et al., 2017). The justifications provided for H7.5a thus led to H7.6a: *there will be a negative relationship between perceived discrimination from healthcare workers directed towards gbMSM using PrEP and wellbeing outcomes (i.e., higher levels of depression, anxiety, stress, and loneliness).*

**7.2.6.1: Mediating effect of gbMSM identification and perceived personal control on the relationship between PrEP discrimination and wellbeing.** Finally, H7.6b anticipated that, similarly to the predictions outlined in H7.5b, *serial mediation will occur whereby perceived discrimination*

of PrEP from healthcare workers will positively predict strength of gbMSM identification, due to discrimination prompting ingroup identification (Branscombe et al., 1999). In turn, as described in H7.5b, it is anticipated that *gbMSM identification will positively predict perceived personal control*, due to ingroup identification being associated with enhanced perceived personal control (Greenaway, Haslam, et al., 2015). Finally, aligning with predictions in H7.5b, it is anticipated that *perceived personal control will positively predict wellbeing outcomes (i.e., lower depression, anxiety, stress, and loneliness)*, based upon research highlighting the buffering effects of perceived personal control on ill-health and poor wellbeing (e.g., Gerstorf et al., 2014).

For clarity, a tabular summary of hypotheses has been provided below (see Table 7.1) to outline the key variables tested for each hypothesis. As some variables of interest in Study 2 were informed by Study 1 (rather than being preselected to explore gbMSM attitudes to PrEP with a SIAH lens), these have been classified as ‘theoretically peripheral’, and are bolded in the table.

**Table 7.1**

*Summary of Study 2a Hypotheses*

Hypothesis	Predictor	Outcome	Mediator
H7.1a	T1 gbMSM Identification	T1 Attitudes to PrEP	-
H7.1b			T1 Perceived Education of PrEP
H7.2a	T1 gbMSM Identification	T1 Wellbeing	-
H7.2b			T1 Social Support
H7.2c			T1 Perceived Personal Control
H7.3a	<b>T1 Meta-perceptions of gbMSM by Healthcare Professionals</b>	T1 Wellbeing	-
H7.3b			T1 Stigma Consciousness and T1 Loneliness
H7.4a	<b>T1 Meta-perceptions of PrEP Use by Healthcare Professionals</b>	T1 Wellbeing	-
H7.4b			T1 Stigma Consciousness and T1 Loneliness
H7.5a	<b>T1 Perceived Healthcare Discrimination of gbMSM</b>	T1 Wellbeing	-
H7.5b			T1 gbMSM Identification and T1 Perceived Personal Control
H7.6a		T1 Wellbeing	-

H7.6b	<b>T1 Perceived Healthcare Discrimination of PrEP Users</b>	T1 gbMSM Identification and T1 Perceived Personal Control
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Note: Bolded variable indicates theoretically peripheral variables informed by Study 1.

### 7.3: Method

#### 7.3.1: Design, Participants, and Procedure

Two-hundred and three participants were recruited during Time 1 (T1) of the three-wave longitudinal Qualtrics survey. Participants were recruited through Prolific Academic (a participant recruitment service). Prolific was identified as a suitable recruitment method due to acceptable attrition rates (Kothe & Ling, 2019; Palan & Schitter, 2018), and production of high-quality data (Eyal et al., 2021). To be eligible, participants had to have indicated on their Prolific Academic registration survey that they were male, lived in the UK, and that they were not heterosexual (i.e., that they were either ‘homosexual’, ‘bisexual’, or ‘other’, based on Prolific Academic’s survey categories). People can only register with Prolific Academic if they are over 18, so all participants were also 18 or older. Participants were paid £1.88 for completing the 10–15-minute survey, which Prolific described as a ‘good’ rate of pay.

Three months later, the 203 T1 participants were invited to take part in the T2 survey, which was identical to the T1 version (except demographic information was not gathered, as this could be obtained for each participant from the T1 data). Participants were paid £1.25 to complete this shorter version of the survey. 160 (78.82%) of the T1 participants completed T2.

Three months later, the 160 T2 participants were invited to take part in the T3 survey, which was identical to the T2 version. Participants were paid £1.25. 128 (80.00%) of the T2 participants completed T3. Demographic information for the participants who completed the survey at each wave can be found in Appendix F.



Across the three waves, participants were excluded from the data-file if they had answered too few questions for their data to be analysable. Three participants were excluded from analyses at T1, two were excluded at T2, and two were excluded at T3 (the numbers of participants stated earlier take these exclusions into account). It was felt that three months allowed for substantial time to pass to assess temporal change without larger attitudinal changes that may be expected if the gap between waves was larger.

### **7.3.2: Ethical Considerations**

An application was submitted to Nottingham Trent University School of Business, Law and Social Sciences Research Ethics Committee and received a favourable ethics opinion in accordance with BPS ethical guidelines (Oates et al., 2021). Participants were first presented with a participant information screen and consent screen (Appendix C). This required a force response to ensure informed consent. At the end of the survey, participants were presented with a debrief (Appendix C), which offered appropriate support resources if required.

### **7.3.3: Power Analysis**

An a priori power analysis was conducted in GPOWER (Faul et al., 2007) to indicate the necessary sample size for statistical power for cross-sectional analysis in Study 2a. Power analysis assumed: a medium effect size ( $f^2 = .15$ ), statistical power of .95, with a significance value of  $\alpha = .05$  and accounted for 5 predictors (the most complex model included 1 predictor, 2 mediators, and 2 controls). A sample size of 129 was deemed necessary for T1 cross-sectional analysis, indicating sufficient power.

An a priori power analysis was also conducted for longitudinal analysis (See Study 2b, Chapter 8). Additional power analyses were necessary to account for controlling for the effects of variables at earlier times (e.g., controlling for T1 stress when measuring T2 stress), which increased the number of variables in the models that were tested. For analysis exploring the relationships between T1 and T2 variables, power analysis accounted for 7 predictors (the most

complex model consisting of 1 predictor, 2 mediators, and 4 controls). A sample size of 153 was deemed necessary, making longitudinal analysis between T1 and T2 slightly underpowered. For models exploring the relationships between T1 and T3, the most complex model involved 9 predictors (1 predictor, 2 mediators, and 6 controls) and indicated a necessary sample size of 166. Thus, analysis between T1 and T3 was underpowered, and caution should be used when interpreting the results.

#### **7.3.4: Survey Measures**

Unless stated, all items were measured on a 1 (“I strongly disagree”) to 7 (“I strongly agree”) scale, with higher values indicating higher levels of the construct in question, and the mean of the items was computed to create the overall scale for that construct. Since many variables were explored in the survey, this chapter will only discuss variables that are analysed in the Results section below. A list of the other variables can be found in Appendix D.

**7.3.4.1: Social Measures.** Although the term ‘gbMSM group identification’ is used throughout this chapter for brevity, participants were given the opportunity to define their sexual orientation group in a more specific way than ‘gbMSM’ (if they wished). Thus, to measure *sexual orientation group identification*, participants were first asked to “Please think about your sexual orientation. How would you define you and the other people who share your sexual orientation (that is, your sexual orientation group)?” and were given the options “Gay community”, “Bisexual community”, “LGBT community”, “gbMSM community” and “Other (please describe)”. At all points in the survey where participants were asked to think about their sexual orientation group, they were specifically being asked to consider this group they had just identified. Next, participants were asked to complete the four-item Group Identification Scale (GIS; (Jetten, Haslam, & Haslam, 2012a) with their sexual orientation group in mind (e.g., “I feel similar to the other members of my sexual orientation group”), (T1 Cronbach’s  $\alpha$ = .94, T2 Cronbach’s  $\alpha$ = .96, T3 Cronbach’s  $\alpha$ = .96).

To measure *PrEP user group identification*, participants who stated they were currently taking PrEP were asked to complete the four-item Group Identification Scale (GIS; (Jetten, Haslam, & Haslam, 2012) again, but with their PrEP user group in mind (e.g., “I feel similar to the other members of my PrEP user group”), (T1 Cronbach’s  $\alpha = .91$ , T2 Cronbach’s  $\alpha = .94$ , T3 Cronbach’s  $\alpha = .88$ ).

*Sexual orientation group social support* was measured with the four-item Social Support Scale (van Dick, Haslam, & Haslam, 2012, as cited in Jetten, Haslam, & Haslam, 2012) (e.g., “Do you get the emotional support you need from other people in your sexual orientation group?”). Participants were required to assign a score from a scale of 1 (“Not at all”) to 7 (“Completely”) for each item, (T1 Cronbach’s  $\alpha = .94$ , T2 Cronbach’s  $\alpha = .96$ , T3 Cronbach’s  $\alpha = .97$ ).

*Perceived personal control* was measured using the Perceived Personal Control Scale (Greenaway et al., 2013). This consisted of 3 items (e.g., “I feel in control of my life”), (T1 Cronbach’s  $\alpha = .80$ , T2 Cronbach’s  $\alpha = .79$ , T3 Cronbach’s  $\alpha = .85$ ).

*Stigma-consciousness* was measured using the ten-item stigma-consciousness questionnaire (SCQ, Pinel, 1999; e.g., “When interacting with heterosexuals who know of my sexual preference, I feel like they interpret all my behaviours in terms of the fact that I am non-heterosexual.”), (T1 Cronbach’s  $\alpha = .87$ , T2 Cronbach’s  $\alpha = .88$ , T3 Cronbach’s  $\alpha = .87$ ).

Positive *attitudes to PrEP* were measured using the fourteen-item Attitudes toward Pre-Exposure Prophylaxis Scale (APS; Jaspal et al., 2019; e.g., “PrEP is likely to work.”), (T1 Cronbach’s  $\alpha = .82$ , T2 Cronbach’s  $\alpha = .69$ , T3 Cronbach’s  $\alpha = .77$ ).

*Perceived Level of Personal Education about PrEP* was measured through participants’ response to a single item created for this survey (“I feel that I am adequately educated about PrEP”). Participants were also asked about *perceived requirement for societal PrEP education* via a single item created for this survey (“I feel that people need better education about PrEP”).

*Meta-perceptions of health professionals towards the participants' sexual orientation group* were measured with a single item (“How do you think your sexual orientation group is perceived by health professionals?”). Additionally, *meta-perceptions of health professionals towards PrEP users* were measured in non-PrEP users with a single item (“How do you think that people who take PrEP are perceived by Healthcare professionals”). PrEP users (or those who had previously used PrEP), were asked an amended question to better reflect their experiences (See Appendix E). These items were inspired by materials developed for other studies (e.g., Fowler & Gasiosek, 2020). Participants assigned a rating for each group, with scores ranging from 0 (“not at all favourably”) to 100 (“extremely favourably”). Higher scores indicated participants felt gbMSM/PrEP-users were perceived more favourably by health professionals.

Participants were also asked about *perceived gbMSM discrimination from health professionals* (“As a non-heterosexual person, I am discriminated against by health professionals”) and about *perceived discrimination of PrEP users from healthcare workers* (“Non-heterosexual people who take PrEP are discriminated against by healthcare professionals”).

Regardless of their PrEP status, participants were also asked about *perceived discrimination towards PrEP users by heterosexuals* (“Non-heterosexual people who take PrEP are discriminated against by straight people”) and about perceived discrimination towards PrEP users by health professionals (“Non-heterosexual people who take PrEP are discriminated against by health professionals”).

**7.3.4.2: Health and Wellbeing Measures.** *Anxiety and depression* were measured using the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983). Seven items measured for anxiety (e.g., “I feel tense or wound up”) and seven items measured for depression (e.g., “I feel cheerful”). Participants were asked to rate items between 0 (e.g., “Often”) and 3 (e.g., “Very Seldom”). Anxiety and depression items were summed separately (Anxiety: T1 Cronbach’s

$\alpha = .88$ , T2 Cronbach's  $\alpha = .88$ , T3 Cronbach's  $\alpha = .90$ ; Depression: T1 Cronbach's  $\alpha = .84$ , T2 Cronbach's  $\alpha = .83$ , T3 Cronbach's  $\alpha = .89$ ).

*Perceived stress* was measured using the ten-item Perceived Stress Scale (PSS; Townsend & Medvedev, 2022; e.g., "How often have you felt difficulties were piling up so high that you could not overcome them?"). Items were rated between 1 ("Never") to 5 ("Very Often"). Items were averaged (T1 Cronbach's  $\alpha = .90$ , T2 Cronbach's  $\alpha = .88$ , T3 Cronbach's  $\alpha = .89$ ).

*Loneliness* was measured using the six-item Short Loneliness Scale (Gierveld & Van Tilburg, 2006; e.g., "I miss having people around") and was chosen due to it capturing both emotional loneliness and social loneliness, (T1 Cronbach's  $\alpha = .82$ , T2 Cronbach's  $\alpha = .83$ , T3 Cronbach's  $\alpha = .87$ ).

**7.3.4.3: Demographic Variables.** Participants disclosed their age (in years) and PrEP user status (1= "Yes I currently take PrEP", 2= "No, But I used to take PrEP", 3= "No I have never used PrEP" and 4= "Other (please describe)". Age was defined as a control variable due to its possible impact on other wellbeing measures (Chen et al., 2018), and its influence on social processes such as stigma (Smit et al., 2012). Additionally, although few PrEP users were recruited, due to Study 1 highlighting that PrEP users often differed in opinion and experience, it was deemed necessary to also control for PrEP status (i.e., whether an individual had ever taken PrEP). Thus, PrEP use was transformed into a dummy variable for use as a control (i.e., 0= never taken PrEP, 1= prior or current experience of taking PrEP).

## **7.4: Study 2a Results**

### **7.4.1: Overview of Statistical Analyses**

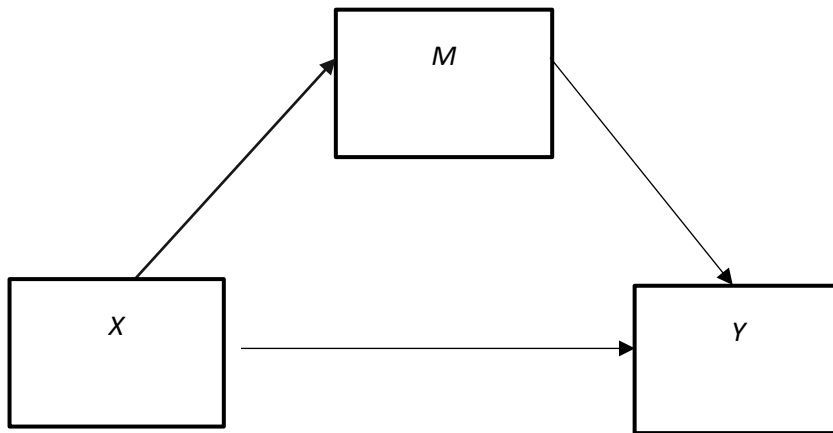
Analyses were conducted in SPSS (Version 28). To test Study 2a's hypotheses, descriptive statistics and correlations were conducted to enable an initial exploration of inter-variable relationships.

Linear regression analyses were then conducted for the key outcome variables (attitudes towards PrEP, depression, anxiety, stress, loneliness). Although this was not strictly necessary because mediation analyses (see next paragraph) are also regression analyses, conducting these analyses enabled exploration of whether the data met the parametric assumptions for regression analyses.

To test the predicted mediation models, the SPSS PROCESS macro version 4.2 (Hayes, 2008) was utilised. Model 4 (see Figure 7.1) was used as a test of mediation and indirect effect analysis to address H7.1a, H7.1b, H7.2a, H7.2b, H7.2c, H7.3a, H7.3b, H7.4a, and H7.4b. Model 6 (see Figure 7.2) was used for serial mediation to test H7.5a, H7.5b, H7.6a, and H7.6b. Five thousand bootstrap samples were conducted for each analysis, which is deemed appropriate (e.g., Preacher et al., 2007). Model significance was determined by examining the LLCI (lower limit confidence interval) and ULCI (upper limit confidence interval): the model was deemed statistically significant at  $p < .05$  if zero did not fall between these two values (i.e., the two values were either both positive or both negative). Significance was measured using bootstrapping and confidence intervals due to the study's relatively small sample size, in-line with recommendations (e.g., Hayes, 2018). Across mediation analyses, the total effect (i.e., the relationship between a predictor and an outcome variable) was reported, in addition to the direct effect (i.e., the relationship between a predictor and an outcome variable when the mediator is accounted for). It was anticipated that direct effects would be smaller than total effects, unless suppressor effects were reported, which leads to the total effect being smaller than the direct effect (e.g., MacKinnon et al., 2000). Across all mediation analyses, indirect effects were reported to illustrate the significance of indirect model pathways. Following advice on interpreting indirect-effect analysis (Zhao et al., 2010), a significant total effect was not deemed necessary to indicate mediation (a model featuring a non-significant total effect, but a significant indirect effect is known as *indirect-only mediation*; Zhao et al., 2010).

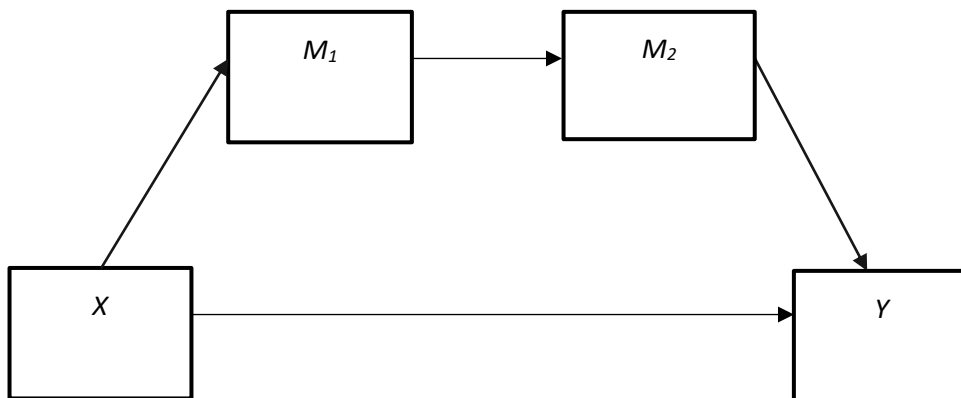
**Figure 7.1**

*Theoretical Model of PROCESS Model 4 (Mediation Analysis)*



**Figure 7.2**

*Theoretical Model of PROCESS Model 6 (Serial Mediation Analysis)*



#### **7.4.2: Descriptive Statistics and Correlations**

Descriptive statistics and correlations were examined for trends across the data (See Appendix I, Table I1). GbMSM identification positively correlated with attitudes to PrEP ( $r = .25, p < .001$ ), indicating greater gbMSM identification was associated with better attitudes to PrEP, thus providing initial support for H1a. Moreover, gbMSM identification was positively associated with awareness of PrEP ( $r = .18, p < .001$ ) and negatively associated with depression ( $r = -.16, p < .001$ ), stress ( $r = -.16, p < .001$ ), and loneliness ( $r = .27, p < .001$ ), thus providing initial support for H1b and H2a. Awareness of PrEP significantly negatively correlated with stress ( $r = -.18, p < .001$ ) and loneliness ( $r = -.21, p < .001$ ), indicating that greater awareness of PrEP was associated with lower reported stress and loneliness, offering partial support for H1b. However, neither gbMSM identification nor awareness of PrEP correlated with anxiety ( $p > .05$ ), thus not fully supporting H7.1b and H7.2a.

GbMSM identification positively correlated with gbMSM social support ( $r = .69, p < .001$ ) and perceived personal control ( $r = .21, p < .001$ ), offering initial support for H7.2b and H7.2c. GbMSM social support was negatively correlated with loneliness ( $r = -.28, p < .001$ ), but did not significantly correlate with depression, anxiety, nor stress, thus only providing partial support for H7.2b. Perceived personal control negatively correlated with depression ( $r = -.58, p < .001$ ), anxiety ( $r = -.56, p < .001$ ), stress ( $r = -.67, p < .001$ ), and loneliness ( $r = -.56, p < .001$ ), offering initial support for H7.2c, H7.3b, and H7.4b. Perceived personal control significantly correlated with all wellbeing measures, indicating the appropriateness of conducting mediation analyses to test H7.2c, H7.3b, and H7.4b.

GbMSM healthcare meta-perceptions was significantly negatively correlated with depression ( $r = -.23, p < .001$ ), anxiety ( $r = -.17, p < .001$ ), stress ( $r = -.20, p < .001$ ), and loneliness ( $r = -.24, p < .001$ ). Thus, gbMSM reporting more favourable beliefs about healthcare perceptions of



gbMSM was associated with lower reported depression, anxiety, stress, and loneliness, offering initial support for H7.3a.

GbMSM Healthcare meta-perceptions of PrEP was significantly negatively correlated with depression ( $r = -.17, p < .001$ ), stress, ( $r = -.15, p < .001$ ), and loneliness ( $r = -.15, p < .001$ ), but was non-significantly correlated with anxiety, offering partial initial support for H7.4a.

Perceived healthcare discrimination was positively correlated with all wellbeing measures: depression ( $r = .26, p < .001$ ), anxiety, ( $r = .31, p < .001$ ), stress, ( $r = .32, p < .001$ ), and loneliness, ( $r = .23, p < .001$ ). Therefore, perceived gbMSM discrimination was associated with negative wellbeing outcomes, supporting H7.5a. Perceived healthcare discrimination was positively correlated with gbMSM identification ( $r = .18, p < .001$ ) and negatively correlated with perceived personal control ( $r = -.32, p < .001$ ), offering support for the appropriateness of conducting mediation to test H7.5b.

Perceived healthcare discrimination of PrEP was positively correlated with depression ( $r = .22, p < .001$ ), anxiety ( $r = .27, p < .001$ ), stress ( $r = .28, p < .001$ ), and loneliness ( $r = .17, p < .001$ ), indicating that perceived healthcare discrimination of PrEP was associated with negative wellbeing outcomes, offering initial support for H7.6a. Perceived healthcare discrimination of PrEP was positively correlated with gbMSM identification ( $r = .18, p < .001$ ), and negatively correlated with perceived personal control ( $r = -.20, p < .001$ ), offering support for the appropriateness of conducting mediation to test H7.6b.

Age significantly correlated with numerous other key variables, indicating that it should be treated as a control variable in all regression/mediation analyses. The importance of age is likely due to the nature of the topic (e.g., older participants having experience of the HIV/AIDS Crisis in the 1980s and 1990s; younger participants growing up at a time when non-heterosexual lifestyles were likely to be more tolerated). All analyses in this chapter after this point thus control for age.

PrEP status was also controlled for in all mediations, excluding meta-perception mediations which did not control for PrEP status due to the items only being answered by those with no experience of PrEP usage.

#### **7.4.3: Regression Analyses (Assumption Testing)**

Multiple regression was conducted to explore predictors of attitudes to PrEP (see Appendix I, Table I2). GbMSM identification ( $\beta = .34$ ) positively predicted attitudes to PrEP, indicating that greater gbMSM identification was associated with positive attitudes to PrEP, thus offering support for H7.1a. Moreover, personal PrEP awareness ( $\beta = .15$ ) positively predicted attitudes to PrEP, whereby increased PrEP awareness was associated with positive attitudes to PrEP, providing initial support for H7.1b. Meta-perceptions of gbMSM by healthcare workers ( $\beta = .21$ ) positively predicted attitudes to PrEP, indicating an association between favourable meta-perceptions of gbMSM by healthcare workers and better attitudes to PrEP. Finally, age ( $\beta = -.18$ ) negatively predicted attitudes to PrEP, indicating an association between greater age and worse attitudes to PrEP, further supporting the decision to control for age in mediation analyses.

Multiple regression was also conducted to explore predictors of wellbeing outcomes: stress (See Appendix I, Table I3), loneliness (See Appendix I, Table I4), depression (See Appendix I, Table I5), and anxiety (See Appendix I, Table I6). Stigma consciousness ( $\beta = -.23$ ) negatively predicted stress, while anxiety ( $\beta = .41$ ) and loneliness ( $\beta = .23$ ) positively predicted stress. Stress ( $\beta = .36$ ) and depression ( $\beta = .21$ ) were significant positive predictors of loneliness. Anxiety ( $\beta = .41$ ), loneliness ( $\beta = .19$ ), and age ( $\beta = .12$ ) were significant positive predictors of depression. Stress ( $\beta = .48$ ) and depression ( $\beta = .33$ ) were significant positive predictors of anxiety, while age was a negative predictor of anxiety ( $\beta = -.15$ ). As age positively predicted depression and negatively predicted anxiety, this added further support for the inclusion of age as a control variable.

All multiple regressions results were examined to ensure the data met parametric assumptions prior to conducting mediation analyses. Scatterplots were used to test for linearity, with no observable curvilinearity across variables. In-line with recommendations from Hair et al. (2010), multicollinearity was not indicated, as all tolerance values were above 0.2 and Variance Inflation Factor (VIF) below 4. In line with interpretations from Field (2009), Durbin-Watson tests were conducted for all models: Attitudes to PrEP (Durbin-Watson value= 2.05), Stress (Durbin-Watson value= 1.77), Loneliness (Durbin-Watson value= 2.18), Depression (Durbin-Watson value= 1.87) and anxiety (Durbin-Watson value= 2.13). As results were not significantly different from 2 (i.e., they fell between 1 and 3), this indicated that residuals were uncorrelated for each regression model.

#### **7.4.4: Mediation Analyses**

For brevity, mediation results are presented in Appendix H, and are only summarised verbally here.

**7.4.4.1: Strength of GbMSM Identification, Perceived Personal PrEP Education, and Attitudes to PrEP.** GbMSM identification positively predicted attitudes to PrEP (i.e., H7.1a), and gbMSM perceived personal PrEP education mediated the relationship between gbMSM identification and attitudes to PrEP (i.e., H7.1b).

**7.4.4.2: Strength of GbMSM Identification, Perceived Social Support, Perceived Control, and Health/Wellbeing.** GbMSM identification predicted depression and stress, but not anxiety and loneliness (H7.2a). GbMSM social support mediated the relationship between gbMSM identification and stress/loneliness, but not depression/anxiety (H7.2b). Perceived personal control mediated the relationship between gbMSM identification and depression/stress/loneliness, but not anxiety (H7.2c).

**7.4.4.3: Healthcare Worker Meta-Perceptions of gbMSM, Stigma Consciousness and Health/Wellbeing.** Meta-perceptions of gbMSM by healthcare professionals predicted

depression/stress, but not anxiety/loneliness (H7.3a). Stigma consciousness and loneliness mediated the relationship between meta-perceptions of gbMSM by healthcare professionals and depression, but not anxiety/stress/loneliness (H7.3b).

**7.4.4.4: Healthcare Worker Meta-Perceptions of PrEP Users, Stigma Consciousness and Health/Wellbeing.** Meta-perceptions of PrEP users by healthcare professionals predicted depression/stress, but not anxiety/loneliness (H7.4a). Stigma consciousness and loneliness did not mediate the relationship between meta-perceptions of PrEP users by healthcare professionals and depression, anxiety, stress, or loneliness (H7.4b).

**7.4.4.5: Healthcare Worker Perceived GbMSM Discrimination, Perceived Personal Control and Health/Wellbeing.** Perceived healthcare discrimination towards gbMSM negatively predicted depression, anxiety, stress, and loneliness (H7.5a). GbMSM identification and perceived personal control mediated all four relationships (H7.5b).

**7.4.4.6: Healthcare Worker Perceived PrEP-User Discrimination, Perceived Personal Control and Health/Wellbeing.** Perceived healthcare discrimination towards PrEP-users negatively predicted depression, anxiety, stress, and loneliness (H7.6a). GbMSM identification and perceived personal control mediated all four relationships (H7.6b).

A summary table below (see Table 7.2) outlines whether Study 2a hypotheses were supported.

**Table 7.2**

*Summary of Study 2a Results*

Hypothesis	Predictor	Outcome	Mediator	Result
H7.1a	T1 gbMSM Identification	T1 Attitudes to PrEP	-	Supported
H7.1b			T1 Perceived Education of PrEP	Supported
H7.2a	T1 gbMSM Identification	T1 Wellbeing	-	Partial Support

H7.2b			T1 Social Support	Partial Support
H7.2c			T1 Perceived Personal Control	Partial Support
H7.3a	T1 Meta-perceptions of gbMSM by Healthcare Professionals	T1 Wellbeing	-	Partial Support
H7.3b			T1 Stigma Consciousness and T1 Loneliness	Marginal Support
H7.4a	T1 Meta-perceptions of PrEP Use by Healthcare Professionals	T1 Wellbeing	-	Partial Support
H7.4b			T1 Stigma Consciousness and T1 Loneliness	Marginal Support
H7.5a			-	Supported
H7.5b	T1 Perceived Healthcare Discrimination of gbMSM	T1 Wellbeing	T1 gbMSM Identification and T1 Perceived Personal Control	Supported
H7.6a	T1 Perceived Healthcare Discrimination of PrEP Users	T1 Wellbeing	-	Supported
H7.6b			T1 gbMSM Identification and T1 Perceived Personal Control	Supported

Note: As wellbeing consisted of multiple variables, partial support indicated that only some wellbeing outcomes (e.g., stress) were significant.

### 7.5: Study 2a: Interim Discussion of Results

Study 2a quantitatively explored variables of interest to further explore i) how gbMSM identification may be beneficial/detrimental to wellbeing (thus addressing thesis aim 3), and ii) further explore stigma processes underpinning attitudes to PrEP by developing a deeper understanding of intergroup relations between gbMSM and healthcare workers (thus addressing thesis aim 2). Study 2a explored relationships between theoretically central variables (e.g., gbMSM identification and wellbeing) and theoretically peripheral variables highlighted in Study 1 (e.g., meta-perceptions of gbMSM/PrEP users by healthcare professionals). Although a Study 2 General Discussion will be presented after Study 2b (see Chapter 8), this chapter will now conclude with a brief integrative summary of Study 2a's results.

Study 2a indicated a positive relationship between gbMSM identification and attitudes to PrEP (H7.1a). The finding that stronger gbMSM identification was associated with better attitudes to PrEP supports research claims that PrEP has become embedded into gbMSM culture (Heredia &

Goldklank, 2021), and also supports this thesis's claims that perceptions of PrEP are fast-moving and prone to change (due to this result being inconsistent with Study 1 participants' perceptions of PrEP). Moreover, this result has important implications for the relationship between gbMSM identification and health. Although gbMSM are a minoritised group (which is often associated with poorer wellbeing outcomes, e.g., Fingerhut et al., 2010), the reported relationship suggests that group identification could be beneficial to gbMSM sexual health (i.e., through being associated with better attitudes to PrEP). This suggests that the relationship between gbMSM identification and health likely involves a complex interplay of Social Cure and Social Curse processes (e.g., Kellezi et al., 2019). This relationship was also mediated by perceived personal education about PrEP, with greater identification positively predicting education, which in turn was associated with better attitudes to PrEP (H7.1b). This suggests that gbMSM identification may help increase awareness of PrEP, and is consistent with research highlighting the benefits of peer-led education as a way to prevent HIV infection (He et al., 2020).

H7.2 applied the SIAH to a gbMSM context, with partial acceptance of H7.2a. Although gbMSM group identification negatively predicted depression and stress, it did not predict anxiety or loneliness. Moreover, social support mediated this relationship for both stress and loneliness, but not for anxiety or depression (H7.2b), and perceived personal control mediated this relationship for depression, stress, and loneliness (but not for anxiety) (H7.2c). Although significant models were not observed for all wellbeing outcomes, Study 2a offers initial support for the idea that gbMSM identification may be beneficial for wellbeing, thus acting as a Social Cure (e.g., Jetten et al., 2012). Moreover, the mediation-related findings offer initial support for , social support and perceived personal control being group resources that may help buffer against negative wellbeing outcomes (as has previously been observed in non-gbMSM contexts, e.g., Greenaway et al., 2015; Haslam et al., 2016).

Although meta-perceptions of gbMSM and of PrEP users by healthcare professionals were tested as separate variables, it is helpful to discuss the results together (H7.3a/H7.4a). H7.3a

explored the relationship between negative meta-perceptions of gbMSM by healthcare professionals and wellbeing, which was significant for depression and stress (i.e., greater reported depression and stress), but not for anxiety (loneliness was not tested as an outcome within the meta-perception models, due to it being conceptualised as a mediator instead). Moreover, negative meta-perceptions of PrEP users by healthcare professionals also positively predicted depression and stress (H7.4a). These relationships suggest that the belief that healthcare professionals would perceive gbMSM and PrEP users poorly is associated with negative wellbeing outcomes. These findings carry important implications, as meta-perceptions held by gbMSM may be inaccurate (e.g., Lees & Cikara, 2019), but still could pose as a threat to gbMSM wellbeing. It is possible that these relationships reflect historical conflicts between gbMSM and healthcare professionals, as discussed previously (e.g., Quinn et al., 2019). It is also possible that meta-perceptions could have implications for help-seeking, which will be discussed in greater detail in the Study 2 General Discussion (see next chapter) and the General Discussion (see Chapter 9) due to their wider implications to this thesis's research.

H7.3b explored whether the relationship between negative meta-perceptions of gbMSM and wellbeing was serially mediated by stigma consciousness and loneliness. Indirect effects indicated marginal significance for all wellbeing models (i.e., negative meta-perceptions of gbMSM were associated with higher depression, anxiety, and stress). Similarly, H7.4b explored whether the relationship between negative meta-perceptions of PrEP use and wellbeing was serially mediated by stigma consciousness and loneliness and was also marginally significant for all wellbeing outcomes. These results further support previous research highlighting the relationship between stigma and meta-perceptions (e.g., Gómez, 2002; Otten, 2002). Moreover, these findings shed light on gbMSM stigma processes in a PrEP context, indicating that meta-perceptions may lead to gbMSM anticipating stigmatised interactions with healthcare professionals. Thus, although Study 2a reported a direct relationship between meta-perceptions of gbMSM and wellbeing, it is likely that meta-perceptions may also influence stigma consciousness (which in turn may lead to

worse wellbeing outcomes). This has important implications to gbMSM help seeking that will be discussed in the following chapter and General Discussion (see Chapter 9).

When exploring the relationship between perceived healthcare discrimination and gbMSM and wellbeing outcomes, H7.5a was fully supported. Perceived discrimination positively predicted wellbeing outcomes (greater discrimination was associated with greater levels of depression, anxiety, stress, and loneliness). These findings are consistent with Study 1 and support previous research highlighting the detrimental impact of discrimination on gbMSM wellbeing (e.g., Coulter-Thompson et al., 2023; Woodford et al., 2014). Aligning with predictions, serial mediation was observed, whereby perceived discrimination of gbMSM by healthcare professionals positively predicted gbMSM group identification, which in turn positively predicted perceived personal control, which in turn negatively predicted all wellbeing outcomes (H7.5b). This is consistent with the Rejection Identification Model (RIM; Branscombe et al., 1999), suggesting that perceived discrimination may facilitate gbMSM identification, which in turn may act to unlock group resources such as perceived personal control, which help to buffer against the harmful effects of discrimination. Thus, although Study 1 often displayed intragroup processes such as unhealthy norms may act as a Social Curse, it is possible that gbMSM identification may also be beneficial, acting as a Social Cure, further supporting the likely complex relationship between gbMSM identification and wellbeing.

H7.6a was also fully accepted, with all models indicating a negative relationship between perceived discrimination of PrEP users by healthcare professionals and wellbeing outcomes. H7.6b was also supported, with perceived discrimination of PrEP users by healthcare professionals positively predicting gbMSM group identification, which in turn positively predicted perceived personal control, which in turn negatively predicted wellbeing outcomes (depression, anxiety, stress, and loneliness). These findings further highlight the detrimental effects of discrimination on gbMSM wellbeing as discussed above (i.e., H7.5a/H7.5b). As Study 2a controlled for PrEP use, this would further suggest that PrEP is embedded into gbMSM culture, due to the negative



relationship observed between perceived discrimination of PrEP users by healthcare professionals and wellbeing.

It is important to acknowledge that this study is the first to examine SIAH-related predictions in the context of PrEP, and thus it is necessary to further explore the relationship between gbMSM identification and PrEP to improve the reliability of the present findings. Study 2a builds on Study 1 by offering further support and insights into how the SIAH can be applied to a PrEP context. This thesis has argued that attitudes to PrEP are likely to rapidly change due to PrEP being a relatively novel drug. Study 2a's findings support the fast-paced changes in attitudes to PrEP, highlighting that PrEP may now be a more integral component of gbMSM identity than it was during data collection for Study 1. Due to this thesis's novel application of a SIAH framework to attitudes towards PrEP, it is necessary to further test the hypotheses presented in the current chapter. Moreover, although attitudes to PrEP are likely to change as PrEP becomes more widely available, it is arguably beneficial to know whether the relationships between variables observed in the present study remain observable over time. Therefore, it is necessary to see whether these results are replicated longitudinally, or whether they change. The next chapter will thus present Study 2b (i.e., Study 2's longitudinal analyses). All hypotheses that were supported at T1 will be tested across T2 and T3 respectively.

## **Chapter 8 Study 2b: Longitudinal Analyses of gbMSM and Attitudes to PrEP**

### **8.1: Chapter Overview**

Study 2b aims to longitudinally replicate the findings of Study 2a to explore whether cross-sectional associations between variables were also observed longitudinally (the rationale for doing this will be discussed in the next section).

As Study 2b was a longitudinal replication of Study 2a, the method and the rationale for each hypothesis can be found in Chapter 7. The present chapter will begin by explaining why longitudinal analyses were conducted, before stating the longitudinal versions of the cross-sectional hypotheses tested in Study 2a. Study 2b's analyses will then be presented, before a general discussion of the strengths, limitations, and implications of Study 2.

### **8.2: Study 2b Rationale**

As highlighted earlier (See Chapter 3 and Chapter 7), a longitudinal design was utilised in Study 2b: i) to examine any change over time in key variables of interest, and ii) to explore the temporal ordering of variables (e.g., Warner Schaie, 2005). Attitudes to PrEP have shifted since PrEP's introduction, with initial stigma suggested as sufficient to deter PrEP usage (Jaspal & Daramilas, 2016). However, as the rollout of PrEP has continued, attitudes have become more nuanced, such that PrEP stigma has become increasingly subtle and complex. It is often reported that PrEP stigma relates to wider gbMSM social issues, such as concerns that PrEP use may affirm stereotypical associations of PrEP users (and thus gbMSM) as promiscuous (e.g., Brooks et al., 2019; Meanley et al., 2021; Quinn et al., 2019). Therefore, Study 2b aimed to highlight whether the relationships observed cross-sectionally could be observed longitudinally, or whether different trends may be observable due to rapidly changing perceptions of PrEP across time. Due to the theoretical application of the SIAH approach to gbMSM/PrEP, it is also particularly important to explore how the temporal ordering of variables may impact the relationships observed in Study 2a. This allowed for examination of how variables at T1 may predict later outcomes at T2/T3. For

example, group identification often results in access to valuable resources such as social support (e.g., Haslam et al., 2016, 2018), and thus when considering how the SIAH may be a helpful lens through which to understand PrEP stigma and potentially inform interventions designed to increase PrEP uptake, it is necessary to explore whether predictors such as gbMSM identification (at T1) may be associated with favourable outcomes at later periods (e.g., better wellbeing outcomes and attitudes to PrEP at T2/T3). To control for potential effects of earlier times, all earlier versions of key variables (i.e., T1 versions of T2 variables; T1 and T2 versions of T3 variables) were controlled for, thus ‘subtracting’ the effects of earlier times to account for difference scores (e.g., Newsom et al., 2012). Age and PrEP experience (i.e., whether a person had not taken PrEP or had/was currently taking PrEP) were also controlled for, based on the rationale provided in the former chapter (See Chapter 7). Like Study 2a, PrEP experience was not controlled for during meta-perception analyses due to these items only being answered by participants who have never used PrEP.

The rationale behind the following hypotheses remains unchanged from Study 2a, and thus can be found listed in full in the previous chapter (See Chapter 7). As relationships were hypothesised to build upon previous PrEP research (Jaspal et al., 2019), lived experiences of gbMSM outlined in Study 1, and established SIAH relationships (e.g., Haslam et al., 2018; Jetten et al., 2017, 2012b, 2012a; Wakefield et al., 2019), no changes in direction or patterning of the relationships were anticipated during longitudinal analysis. This was also attributed to the relatively short time between waves (three months), which aimed to minimise large changes to attitudes to PrEP as previously described (See Chapter 3). Moreover, as this thesis has highlighted, intergroup difficulties between gbMSM and healthcare providers are longstanding (See Chapter 2 and Chapter 5), further indicating that longitudinal analysis would not result in changes to patterning of the meta-perception and discrimination-based hypotheses.

Although the limitations and broader contextual issues surrounding Study 2 will be discussed in depth towards the end of this chapter and in the General Discussion, Study 2b was

slightly underpowered at T2 and very underpowered at T3. Moreover, some variables (i.e., T2 stress and T2 attitudes to PrEP) were not statistically consistent (i.e., T2 stress/T2 attitudes to PrEP significantly differed from other time points). Analyses thus focussed on relationships between i) T1 predictors and T2 outcomes, ii) T1 predictors and T3 outcomes (with T2 mediators), and iii) T1 predictors and T3 outcomes (with T3 outcomes). Due to power issues, Study 2b did not explore the relationship between T2 and T3 variables. However, for completeness, a summary of T2 to T3 results have been included as part of the appendices (See Appendix G).

### **8.3: Study 2b Longitudinal Hypotheses**

#### ***8.3.1: gbMSM Group Identification and Attitudes to PrEP***

Consistent with Study 2a's findings, the following predictions were made:

**H8.1:** T1 gbMSM identification will positively predict a) attitudes to PrEP at T2, and b) attitudes to PrEP at T3.

**H8.2a:** The relationship described in H1a (i.e., T1 gbMSM identification will positively predict attitudes to PrEP at T2) will be mediated by perceived level of education about PrEP at T2, such that T1 gbMSM identification will positively predict perceived level of education about PrEP at T2, which in turn will positively predict T2 attitudes to PrEP.

**H8.2b:** The relationship described in H1 (i.e., T1 gbMSM identification will positively predict attitudes to PrEP at T3) will be mediated by i) perceived level of education about PrEP at T2, and ii) perceived level of education about PrEP at T3, such that T1 gbMSM identification will positively predict perceived level of education about PrEP at T2/T3, which in turn will positively predict T3 attitudes to PrEP.

#### ***8.3.2: gbMSM Group Identification and Wellbeing Outcomes***

Consistent with Study 2a's findings, the following predictions were made:

**H8.3:** Strength of gbMSM identification at T1 will: a) positively predict favourable wellbeing outcomes at T2 (i.e., lower levels of T2 depression, T2 anxiety, T2 stress, and T2 loneliness), and b) positively predict favourable wellbeing outcomes at T3 (i.e., lower levels of T3 depression, T3 anxiety, T3 stress, and T3 loneliness).

**H8.4:** The relationships described in H8.3a will be mediated by T2 gbMSM social support, such that T1 gbMSM group identification will positively predict T2 gbMSM social support, which in turn will negatively predict T2 depression, T2 anxiety, T2 stress, and T2 loneliness.

**H8.5:** The relationships described in H8.3 will be mediated by: a) T2 gbMSM social support, such that T1 gbMSM group identification will positively predict T2 gbMSM social support, which in turn will negatively predict T3 depression, T3 anxiety, T3 stress, and T3 loneliness, and by: b) T3 gbMSM social support, such that T1 gbMSM group identification will positively predict T3 gbMSM social support, which in turn will negatively predict T3 depression, T3 anxiety, T3 stress, and T3 loneliness.

**H8.6:** The relationships described in H8.4 will be mediated by T2 perceived personal control, such that T1 gbMSM group identification will positively predict T2 perceived personal control, which in turn will negatively predict T2 depression, T2 anxiety, T2 stress, and T2 loneliness.

**H8.7:** The relationships described in H3b will be mediated by: i) T2 perceived personal control, such that T1 gbMSM group identification will positively predict T2 perceived personal control, which in turn will negatively predict T3 depression, T3 anxiety, T3 stress, and T3 loneliness, and by: ii) T3 perceived personal control, such that T1 gbMSM group identification will positively predict T3 perceived personal control, which in turn will negatively predict T3 depression, T3 anxiety, T3 stress, and T3 loneliness.

### ***8.3.3: Meta-perceptions of gbMSM by Healthcare Professionals and Wellbeing***

Consistent with Study 2a's findings, the following predictions were made:

**H8.8:** Meta-perceptions of gbMSM by healthcare professionals at T1 (will be a negative predictor of: a) wellbeing outcomes at T2, and b) wellbeing outcomes at T3 (i.e., T2/T3 depression, T2/T3 anxiety, and T2/T3 stress).

**H8.9:** The relationships described in H8.8 will be serially mediated by T2 stigma consciousness and T2 loneliness, such that meta-perceptions of gbMSM by healthcare professionals will negatively predict T2 depression, T2 anxiety, T2 stress, and T2 loneliness.

**H8.10:** The relationships described in H8.8 will be serially mediated by: i) T2 perceived stigma consciousness and T2 loneliness, such that meta-perceptions of gbMSM by healthcare professionals at T1 will be associated with increased T2 stigma consciousness, which in turn will positively predict T2 loneliness, which in turn will positively predict a) T2 depression, T2 anxiety, and T2 stress, and b) T3 depression, T3 anxiety and T3 stress (i.e., higher levels of depression, anxiety, and stress), and ii) T3 stigma consciousness and T3 loneliness, such that negative meta-perceptions of gbMSM by healthcare professionals will be associated with greater T3 stigma consciousness, which in turn shall positively predict T3 loneliness, which shall positively predict T3 depression, T3 anxiety, and T3 stress.

#### ***8.3.4: Meta-perceptions of PrEP users by Healthcare Professionals and Wellbeing***

Consistent with Study 2a's findings, the following predictions were made:

**H8.11:** Meta-perceptions of PrEP users by healthcare professionals at T1 will negatively predict a) T2 depression, T2 anxiety, and T2 stress, and b) T3 depression, T3 anxiety, and T3 stress (i.e., higher levels of depression, anxiety, and loneliness).

**H8.12:** The relationships described in H8.8 will be serially mediated by: T2 perceived stigma consciousness and T2 loneliness, such that negative meta-perceptions of PrEP users by healthcare professionals at T1 will be associated with increased T2 stigma consciousness, which in

turn will positively predict T2 loneliness, which in turn will positively predict a) T2 depression, T2 anxiety, and T2 stress.

**H8.13:** The relationship described in H.11b will be serially mediated by i) T2 perceived stigma consciousness and T2 loneliness, such that negative meta-perceptions of PrEP users by healthcare professionals at T1 will be associated increased T2 stigma consciousness, which In turn will positively predict T2 loneliness, which will positively predict T3 depression, T3 anxiety and T3 stress (i.e., higher levels of depression, anxiety, and stress) and ii) T3 stigma consciousness and T3 loneliness, such that negative meta-perceptions of PrEP users by healthcare professionals at T1 will be associated with greater T3 stigma consciousness, which in turn will positively predict T3 loneliness, which will positively predict T3 depression, T3 anxiety, and T3 stress.

### ***8.3.5: Perceived Healthcare Worker Discrimination of gbMSM***

Consistent with Study 2a's findings, the following predictions were made:

**H8.14:** Perceived discrimination of gbMSM by healthcare professionals at T1 will positively predict a) T2 depression, T2 anxiety, T2 stress, and T2 loneliness, and b) T3 depression, T3 anxiety, T3 stress, and T3 loneliness.

**H8.15:** The relationships described in H8.13 will be serially mediated by: i) T2 gbMSM identification and T2 perceived personal control, such that perceived discrimination of gbMSM by healthcare professionals at T1 will positively predict T2 gbMSM identification, which in turn will positively predict T2 perceived personal control, which will negatively predict a) T2 depression, T2 anxiety, T2 stress, and T2 loneliness.

**H8.16:** The relationship described in H8.14b will be serially mediated by T2 gbMSM identification and T2 perceived personal control, such that T1 perceived discrimination of gbMSM by healthcare professionals shall positively predict T2 gbMSM identification, in turn positively predicting T2 perceived personal control, which will negatively predict T3 depression, T3 anxiety,

T3 stress, and T3 loneliness (i.e., greater T2 perceived personal control shall be associated with lower levels of depression, anxiety, stress, and loneliness) and ii) T3 gbMSM identification and T3 perceived personal control, such that T1 perceived discrimination of gbMSM by healthcare professionals at T1, will be associated with greater T3 gbMSM identification, which in turn will positively predict T3 perceived personal control, which will negatively predict T3 depression, T3 anxiety, and T3 stress, and T3 loneliness.

#### **8.5.6: Perceived Healthcare Worker Discrimination of PrEP users**

Consistent with Study 2a's findings, the following predictions were made:

**8.17:** Perceived discrimination of PrEP users by healthcare professionals at T1 will positively predict a) T2 depression, T2 anxiety, T2 stress, and T2 loneliness, and b) T3 depression, T3 anxiety, T3 stress, and T3 loneliness.

**H8.18:** The relationships described in H8.14 will be serially mediated by: T2 gbMSM identification and T2 perceived personal control, such that perceived discrimination of PrEP users by healthcare professionals T1 will positively predict T2 gbMSM identification, which in turn will positively predict T2 perceived personal control, which will negatively predict a) T2 depression, T2 anxiety, T2 stress, and T2 loneliness.

**H8.19:** The relationship described in H8.14b will be serially mediated by: T2 gbMSM identification and T2 perceived personal control, such that perceived discrimination of PrEP users by healthcare professionals use at T1 shall positively predict T2 gbMSM identification and in turn, positively predict T2 perceived personal control, which will negatively predict T3 depression, T3 anxiety, T3 stress, and T3 loneliness (i.e., greater T2 perceived personal control shall be associated with lower levels of T3 depression, T3 anxiety, T3 stress, and T3 loneliness)and ii) T3 gbMSM identification and T3 perceived personal control, such that T1 perceived discrimination of PrEP users by healthcare professionals at T1, will be associated with greater T3 gbMSM identification,



which in turn will positively predict T3 perceived personal control, which will negatively predict T3 depression, T3 anxiety, and T3 stress, and T3 loneliness.

For clarity, a tabular summary of hypotheses (see Table 8.1) and the main variables tested is included below. As some variables of interest in Study 2 were informed by Study 1 (rather than being preselected to explore gbMSM attitudes to PrEP with a SIAH lens), these have been classified as ‘theoretically peripheral’, and are bolded in the table.

**Table 8.1**

*Summary of Study 2b Hypotheses*

Hypothesis	Predictor	Outcome	Mediator
H8.1	T1 gbMSM Identification	T2/T3 Attitudes to PrEP	-
H8.2a	T1 gbMSM Identification	T2/T3 Attitudes to PrEP	T2 Perceived Education of PrEP
H8.2b			T3 Perceived Education of PrEP
H8.3	T1 gbMSM Identification	T2/T3 Wellbeing	-
H8.4/8.5			T2/T3 Social Support
H8.6/H8.7			T2/T3 Perceived Personal Control
H8.8	<b>T1 Meta-perceptions of gbMSM by Healthcare Professionals</b>	T2/T3 wellbeing	-
H8.9/H8.10			T2/T3 Stigma Consciousness and T2/T3 Loneliness
H8.11	<b>T1 Meta-perceptions of PrEP Use by Healthcare Professionals</b>	T2/T3 Wellbeing	-
H8.12/H8.13			T2/T3 Stigma Consciousness and T2/T3 Loneliness
H8.14	<b>T1 Perceived Healthcare Discrimination of gbMSM</b>	T2/T3 wellbeing	-
H8.15			T2 gbMSM identification and T2 Perceived Personal Control
H8.16			T3 gbMSM identification and T3 Perceived Personal Control
H8.17	<b>T1 Perceived Healthcare Discrimination of PrEP Users</b>	T2/T3 Wellbeing	-
H8.18/H8.19			T2/T3 gbMSM identification and T2/T3 Perceived Personal Control

Note: Bolded variable indicates theoretically peripheral variables informed by Study 1.

## 8.4: Study 2b Analysis

### 8.4.1: Overview of Statistical Analyses

Repeated measure ANOVAs were conducted (e.g., Schober & Vetter, 2018) to ensure there was no significant variation between variable mean scores at different time periods (i.e., variables were consistent over time). This was followed by correlations, which explored test-retest reliability of variables in addition to providing initial support for some hypotheses. Like Study 2a, (See Chapter 7), this was followed by T2/T3 cross-sectional regression analyses. Although this did not contribute to hypotheses, testing variables through multiple regression ensured that T2/T3 variables did not violate regression assumptions. Mediation analyses were then conducted between T1 predictors and T2 mediator/outcome variables to test the longitudinal hypotheses pertaining to the T1 and T2 data. Mediation analyses were conducted to test the longitudinal hypotheses pertaining to the T1 and T3 data. Finally, mediation analyses were conducted to test the longitudinal hypotheses pertaining to the T1, T2, and T3 data. The T1 versions of all T2 variables (and, where relevant, the T1 and T2 versions of all T3 variables) were controlled for in all analyses. Age and PrEP status were also controlled for in all mediations, excluding meta-perception mediations which did not control for PrEP status due to the items only being answered by those with no experience of PrEP usage.

**8.4.1.1: Variable Testing.** Repeated Measures ANOVAs were conducted to examine whether mean scores differed between the three waves. Results indicated no significance differences between waves for all variables except stress ( $F(1, 119) = 758.30, p < .001$ ) and attitudes to PrEP ( $F(1, 119) = 5429.17, p < .001$ ).

A post-hoc Bonferroni test highlighted that although there was no significant difference between T1 Stress and T2 Stress (.58, (CI 95%, -.57 to 1.73)  $p = .662$ ) or T1 Stress and T3 Stress (-.69 (CI 95%, -1.82 to .43),  $p = .414$ ), mean reported stress was significantly lower at T2 than at T3 (-1.28, (CI 95%, -2.31 to -.24),  $p = .01$ ).

A post-hoc Bonferroni test indicated no significant difference between T1 and T3 Attitudes to PrEP (-.30, (CI 95%, -1.78 to 1.18)  $p = 1.00$ ). However, mean attitudes to PrEP were significantly more positive at T1 than at T2 (2.79, (CI 95%, 1.39 to 4.20)  $p < .001$ ), and significantly more negative at T2 than at T3 (03.09, (CI 95%, -4.48 to 1.71)  $p < .001$ ). Possible reasons will be explored in the Study 2 General Discussion.

**8.4.1.2: Multiple Regression Assumption testing.** Assumption testing from T1 was replicated cross-sectionally for T2 and for T3 across the main variables to ensure no variables violated assumptions. As regression analyses did not relate to hypotheses directly, results will only be discussed in the context of assumptions for regression.

Multiple regression explored possible T2 predictors of T2 attitudes to PrEP (See Appendix J, Table J1), which was repeated to explore possible T2 predictors of T2 stress (See Appendix J, Table J2), T2 loneliness (See Appendix J, Table J3), T2 depression (See Appendix J, Table J4), and T2 anxiety (See Appendix J, Table J5). All results were examined to ensure the data met parametric assumptions prior to conducting mediation analyses. Scatterplots were used to test for linearity, with no observable curvilinearity across variables. In-line with recommendations from Hair et al. (2010), multicollinearity was not indicated as all tolerance values were above 0.2 and Variance Inflation Factor (VIF) below 4. In-line with interpretations from Field (2009), Durbin-Watson tests were conducted for all models: T2 Attitudes to PrEP (Durbin-Watson value= 2.04), T2 Stress (Durbin-Watson value= 1.77), T2 Loneliness (Durbin-Watson value= 2.54), T2 Depression (Durbin-Watson value= 2.15) and T2 Anxiety (Durbin-Watson value= 2.15). As results were not significantly different from 2 (i.e., they fell between 1 and 3), this indicated that residuals were uncorrelated for each regression model.

Regressions were repeated for T3 with any possible T3 predictors of T3 attitudes to PrEP (See Appendix J, Table J6), which explored possible T3 predictors of T3 stress (See Appendix J, Table J7), T3 loneliness (See Appendix J, Table J8), T3 depression (See Appendix J, Table J9), and T3

anxiety (See Appendix J, Table J10). In-line with recommendations from Hair et al. (2010), multicollinearity was not indicated as all tolerance values were above 0.2 and Variance Inflation Factor (VIF) below 4. In line with interpretations from Field (2009), Durbin-Watson tests were conducted for all models: T3 Attitudes to PrEP (Durbin-Watson value= 2.00), T3 Stress (Durbin-Watson value= 1.81), T3 Loneliness (Durbin-Watson value= 2.12), T2 Depression (Durbin-Watson value= 2.00) and T3 Anxiety (Durbin-Watson value= 2.17). As results were not significantly different from 2 (i.e., they fell between 1 and 3), this indicated that residuals were uncorrelated for each regression model.

#### **8.4.2: T1-T3 Correlations**

Correlations were examined as initial tests of the hypotheses (See Appendix H), and to ensure variables across T1, T2, and T3 were correlated, which would indicate test-retest reliability. For example, results indicated that T1 gbMSM group identification significantly correlated with both T2 gbMSM group identification ( $r = .77, p < .001$ ), and T3 gbMSM group identification ( $r = .73, p < .001$ ). Variables were inter-correlated between T1 and T3 thus indicating test-retest reliability (See Appendix H) and similarity between the variables across different time periods.

##### **8.4.2.1: Correlations gbMSM Identification and Attitudes to PrEP. T1 gbMSM**

identification positively correlated with both T2 attitudes to PrEP ( $r = .30, p < .001$ ) and T3 attitudes to PrEP ( $r = .31, p < .001$ ). This indicated that greater gbMSM identification at T1 was associated with more favourable attitudes to PrEP at T2/T3, offering initial support for H8.1. Additionally, T1 gbMSM identification did not significantly correlate with T2 perceived education of PrEP ( $r = .10, p = .214$ ), but positively and significantly correlated with T3 perceived education of PrEP ( $r = .20, p = .026$ ), indicating that although no relationship was observed between T1 gbMSM identification and T2 perceived education of PrEP, greater T1 gbMSM identification was associated with higher reported T2 perceived education of PrEP. Although T2 perceived education of PrEP positively correlated with T2 attitudes to PrEP ( $r = .16, p = .040$ ), suggesting a link better greater T2

perceived education of PrEP and T2 attitudes to PrEP, no correlation was reported for T2 perceived education of PrEP and T3 attitudes to PrEP ( $r = .16, p = .082$ ), offering partial support for the mediation hypotheses (i.e., H8.2a and H8.2b).

**8.4.2.2: Correlations between gbMSM identification, Wellbeing and SIAH Mediators.** No significant correlations were reported between T1 gbMSM identification and: T2 Stress ( $r = -.07, p = .352$ ), T3 Stress ( $r = -.10, p = .286$ ), T2 Depression ( $r = -.13, p = .099$ ), T3 Depression ( $r = -.12, p = .164$ ), T2 Anxiety ( $r = -.08, p = .349$ ), and T3 Anxiety ( $r = -.11, p = .199$ ), not supporting hypothesis H8.3b. However, T1 gbMSM identification was associated with lower reported T2 loneliness ( $r = -.23, p = .003$ ) and lower T3 loneliness ( $r = -.18, p = .045$ ), offering some support for H8.3b. This indicates that greater T1 gbMSM identification was associated with lower loneliness at T2 and T3.

T1 gbMSM Identification was positively correlated with T2 social support ( $r = .48, p < .001$ ), and T3 social support ( $r = .52, p < .001$ ), indicating that greater T1 gbMSM identification was associated with a greater sense of T2 and T3 social support, offering initial support for the mediation models (i.e., H8.4 and H8.5). However, gbMSM identification was not associated with T2 perceived personal control ( $r = .12, p = .139$ ) or T3 perceived personal control ( $r = .15, p = .098$ ), not supporting H8.6 or H8.7.

T2 social support was not correlated with T2 stress ( $r = -.02, p = .834$ ), T3 stress ( $r = -.06, p = .550$ ), T2 depression ( $r = -.13, p = .107$ ), T3 depression ( $r = -.15, p = .097$ ), T2 anxiety ( $r = -.00, p = .959$ ), or T3 anxiety ( $r = -.11, p = .236$ ), not supporting the social support mediation models (i.e., H8.4 and H8.5). However, T2 social support was negatively correlated with T2 loneliness ( $r = -.20, p = .012$ ) and T3 loneliness ( $r = -.28, p = .002$ ), partially supporting the social support mediation models (i.e., H8.4 and H8.5).

T2 Perceived personal control was negatively correlated with T2 Stress ( $r = -.62, p < .001$ ), T3 Stress ( $r = -.55, p < .001$ ), T2 Depression ( $r = -.63, p < .001$ ), T3 Depression ( $r = -.50, p < .001$ ), T2 anxiety ( $r = -.53, p < .001$ ), T3 anxiety ( $r = -.48, p < .001$ ), T2 loneliness ( $r = -.64, p < .001$ ) and T3

loneliness ( $r = -.60, p < .001$ ), indicating that greater perceived personal control at T2 was associated with better wellbeing outcomes at T2 and T3, and supporting the perceived personal control mediation model (i.e., H8.6 and H8.7).

**8.4.2.3: Correlations for Meta-Perceptions of gbMSM by Healthcare Workers and Wellbeing.** Negative meta-perceptions of gbMSM by healthcare professionals at T1 negatively correlated with T2 stress ( $r = -.23, p = .004$ ), T3 stress ( $r = -.18, p = .040$ ), T2 depression ( $r = -.17, p = .031$ ), and T3 depression ( $r = -.29, p < .001$ ), indicating that less favourable meta-perceptions (i.e., gbMSM perceiving that healthcare workers would have negative perceptions of gbMSM) at T1 was associated with increased stress and depression at T2 and T3 (offering initial support for H8.8). However, no correlation was observed between meta-perceptions of gbMSM by healthcare professionals and T2 anxiety ( $r = -.14, p = .086$ ), or T3 anxiety ( $r = -.08, p = .348$ ), not supporting H8.8.

Meta-perceptions of gbMSM by healthcare professionals were negatively correlated with T2 stigma consciousness ( $r = -.28, p < .001$ ), and T3 stigma consciousness ( $r = -.22, p < .001$ ), indicating that less favourable meta-perceptions of gbMSM by healthcare workers were associated with greater stigma consciousness at T2 and T3. T2 stigma consciousness positively correlated with T2 loneliness ( $r = .35, p < .001$ ), and T3 stigma consciousness positively correlated with T3 loneliness ( $r = .39, p < .001$ ), indicating that greater T2/T3 stigma consciousness was associated with increased T2/T3 loneliness respectively, offering initial support for serial mediation (i.e., H8.9 and H8.10). T2 loneliness was significantly correlated with T2 stress ( $r = .68, p < .001$ ), T3 stress ( $r = .58, p < .001$ ), T2 depression ( $r = .46, p < .001$ ), T3 depression ( $r = .56, p < .001$ ), T2 anxiety ( $r = .55, p < .001$ ), and T3 anxiety ( $r = .51, p < .001$ ), indicating that greater T2 loneliness was associated with worse T2 wellbeing. Additionally, T3 loneliness was positively correlated with T3 stress ( $r = .70, p < .001$ ), T3 depression ( $r = .69, p < .001$ ) and T3 anxiety ( $r = .57, p < .001$ ). Therefore, as T1 meta-perceptions of gbMSM by healthcare professionals were negatively correlated with T2/T3 stigma

consciousness, which in turn was negatively correlated with T2/T3 loneliness, which in turn was positively correlated with T2/T3 wellbeing, initial support was provided for H8.9 and H8.10.

**8.4.2.4: Correlations of Meta-perceptions of PrEP users by Healthcare Professionals and Wellbeing.** Meta-perceptions of PrEP users by healthcare professionals at T1 did not correlate with T2 Stress ( $r = -.15, p = .089$ ), T3 Stress ( $r = -.18, p = .057$ ), T2 Depression ( $r = -.16, p = .062$ ), T2 Anxiety ( $r = -.09, p = .303$ ), or T3 anxiety ( $r = -.08, p = .431$ ) thus not supporting H8.11. However, Meta-perceptions of PrEP users by healthcare professionals at T1 negatively correlated with T3 depression ( $r = -.27, p = .004$ ), indicating that unfavourable meta-perceptions of PrEP users by healthcare professionals at T1 were associated with greater reported depression at T3, supporting H8.11.

Meta-perceptions of PrEP users by healthcare professionals at T1 did not correlate with T2 stigma consciousness ( $r = -.13, p = .119$ ), although T2 stigma consciousness positively correlated with T2 loneliness ( $r = .35, p < .001$ ). Therefore, although there was no reported relationship between T1 meta-perceptions of PrEP users by healthcare professionals and T2 stigma consciousness, greater stigma consciousness at T2 was associated with greater loneliness at T2, thus offering initial support for mediation (i.e., H8.12 and H8.13). T1 Meta-perceptions of PrEP users by healthcare professionals did not correlate with T3 stigma consciousness ( $r = -.16, p = .085$ ), although T3 stigma consciousness did positively correlate with T3 loneliness ( $r = .39, p < .001$ ), indicating that greater stigma consciousness at T3 was associated with greater loneliness at T3, and offering partial support for mediation (i.e., H8.12 and H8.13).

T2 Loneliness positively correlated with T2 Stress ( $r = .68, p < .001$ ), T2 Depression ( $r = .62, p < .001$ ), and T2 anxiety ( $r = .55, p < .001$ ). Moreover, T2 Loneliness positively correlated with T3 Stress ( $r = .58, p < .001$ ), T3 Depression ( $r = .56, p < .001$ ), and T3 Anxiety ( $r = .51, p < .001$ ), indicating that greater T2 loneliness was associated with worse wellbeing at T2 and T3, and additionally offered further support for mediation (i.e., H8.12 and H8.13).

#### 8.4.2.5: Correlations of T1 Perceived Healthcare Discrimination of gbMSM and

**Wellbeing.** T1 Perceived healthcare discrimination of gbMSM was observed to significantly correlate with T2 stress ( $r = .38, p < .001$ ), T3 stress ( $r = .29, p = .001$ ), T2 depression ( $r = .25, p = .001$ ), T3 depression ( $r = .24, p = .006$ ), T2 anxiety ( $r = .36, p < .001$ ), T3 anxiety ( $r = .19, p = .029$ ), T2 loneliness ( $r = .25, p = .002$ ), and T3 loneliness ( $r = .25, p = .005$ ). This indicated that perceived discrimination of gbMSM at T1 was associated with worse wellbeing outcomes at T2 and T3, offering initial support for hypothesis 8.14.

T1 perceived discrimination of gbMSM by healthcare professionals positively correlated with T2 ( $r = .26, p < .001$ ) and T3 ( $r = .33, p < .001$ ) gbMSM identification, indicating that increased T1 perceived healthcare discrimination of gbMSM was associated with increased T2 gbMSM identification. T2 gbMSM identification negatively correlated with T2 perceived personal control ( $r = -.32, p < .001$ ), with T2 gbMSM Identification reported to positively correlated with T2 perceived personal control ( $r = .17, p = .038$ ), providing initial support for serial mediation hypotheses (i.e., H8.15 and H8.16). Although T1 perceived healthcare discrimination of gbMSM positively correlated to T3 gbMSM identification ( $r = .26, p < .001$ ), T3 gbMSM identification was not reported to correlate with T3 perceived personal control  $r = .10, p = .07$ ). Additionally, T2 perceived personal control was negatively correlated with T2 stress ( $r = -.62, p < .001$ ), T2 depression ( $r = -.63, p < .001$ ), T2 anxiety ( $r = -.53, p < .001$ ), and T2 loneliness ( $r = -.64, p < .001$ ). Moreover, T3 perceived personal control was negatively correlated with T3 stress ( $r = -.72, p < .001$ ), T3 depression ( $r = -.68, p < .001$ ), T2 anxiety ( $r = -.56, p < .001$ ), and T2 loneliness ( $r = -.67, p < .001$ ), suggesting that greater perceived personal control at T2 and T3 was associated with better wellbeing outcomes at T2 and T3 respectively, in addition to offering additional support for mediation (H8.15 and H8.16).

**8.4.2.6: Perceived Healthcare Discrimination of PrEP users and Wellbeing.** T1 perceived healthcare discrimination of PrEP users positively correlated with T2 stress ( $r = .21, p = .008$ ), T2 anxiety ( $r = .21, p = .009$ ), T2 loneliness  $r = .16, p = .04$ ), T3 loneliness ( $r = .19, p = .033$ ) and T3



depression ( $r = .19, p = .032$ ), indicating that greater perceptions of healthcare discrimination of PrEP users at T1 was associated with increased T2 stress, T2 anxiety, T2 loneliness, T3 loneliness and T3 depression, thus offering some support to hypothesis 8.17. However, no correlation was observed between T1 perceived healthcare discrimination of PrEP users and T2 depression ( $r = .08, p = .289$ ), T3 stress ( $r = .17, p = .058$ ), or T3 anxiety ( $r = .14, p = .119$ ), leading to only partial support for H8.17.

T1 perceived discrimination of PrEP users by healthcare professionals positively correlated with T2 gbMSM identification ( $r = .23, p = .003$ ) and T3 gbMSM identification ( $r = .24, p = .006$ ), indicating that greater perceived healthcare discrimination of PrEP users was associated with greater gbMSM identification. Due to the established correlations between T2 gbMSM identification and T2 perceived personal control but not T3 gbMSM identification and T3 perceived personal control (i.e., see earlier correlations), only partial initial support was presented for serial mediation (H8.18 and H8.19).

As stated in Study 2a, age was treated as a control variable due to lived experiences, such as the HIV/AIDS Crisis likely to influence perceptions of gbMSM community, HIV, and subsequently PrEP. Moreover, age was observed to correlate with multiple variables, further supporting the decision to control for age. Additionally, PrEP use was controlled for through a dummy variable of PrEP experience (i.e., 0= never taken PrEP, 1= currently or previously taken PrEP). This was deemed necessary due to how Study 1 highlighted that PrEP users often upheld different opinions on sexual health than non-PrEP users.

### **8.5: Longitudinal Analyses: T1-T2 Mediation**

For brevity, mediation results are presented in Appendix J, and are only summarised verbally here.

#### **8.5.1: T1-T2 gbMSM Identification and Attitudes to PrEP**

The total effect of T1 gbMSM identification predicting T2 Attitudes to PrEP was significant (H8.1). No mediation was observed for T2 perceived education of PrEP on the relationship between T1 gbMSM identification and T2 Attitudes to PrEP (H8.2a).

#### ***8.5.2: T1-T2 gbMSM Identification, Wellbeing, and SIAH Mediators***

The total effect of T1 gbMSM identification predicting T2 wellbeing (T2 Stress, T2 Loneliness, T2 Depression and T2 Anxiety) was non-significant (H8.3). No mediation was observed for T2 Social Support (H8.4) nor T2 Perceived Personal Control (H8.6) on the relationship between T1 gbMSM identification and T2 wellbeing.

#### ***8.5.3: T1-T2 Meta-perceptions of gbMSM by Healthcare Professionals***

The total effect of T1 meta-perceptions of gbMSM by Healthcare Professionals predicting T2 wellbeing (T2 Stress, T2 Depression and T2 Anxiety) was non-significant (H8.8). No serial mediation was observed for T2 Stigma Consciousness and T2 Loneliness (H8.9) on the relationship between T1 meta-perceptions of gbMSM by Healthcare Professionals and T2 wellbeing outcomes.

#### ***8.5.4: T1-T2 Meta-perceptions of PrEP Users by Healthcare Professionals and Wellbeing***

The total effect of T1 meta-perceptions of PrEP Users by Healthcare Professionals predicting T2 wellbeing (T2 Stress, T2 Depression and T2 Anxiety) was non-significant (H8.11). No serial mediation was observed for T2 Stigma Consciousness and T2 Loneliness (H8.12) on the relationship between T1 meta-perceptions of PrEP Users by Healthcare Professionals and T2 wellbeing outcomes.

#### ***8.5.5: T1-T2 Perceived Healthcare Discrimination of gbMSM and Wellbeing***

The total effect of T1 Perceived Healthcare Discrimination of gbMSM on T2 Stress was significant. The total effect of T1 Perceived Healthcare Discrimination of gbMSM on T2 Loneliness, T2 Depression and T2 Anxiety was non-significant. Thus, providing partial support for H8.14. Serial mediation was observed for T2 gbMSM Identification and T2 Perceived Personal Control on the

relationship between T1 Perceived Healthcare Discrimination of gbMSM and T2 Depression and T2 Anxiety. Therefore, providing partial support for H8.15.

#### **8.5.6: T1-T2 Perceived Healthcare Discrimination of PrEP users**

The total effect of T1 Perceived Healthcare Discrimination of PrEP Users on T2 wellbeing (T2 Stress, T2, Loneliness, T2 Depression and T2 Anxiety) was non-significant (H8.17). Serial mediation was not observed for T2 gbMSM Identification and T2 Perceived Personal Control on the relationship between T1 Perceived Healthcare Discrimination of PrEP Users and T2 wellbeing outcomes (H8.18).

### **8.6: T1-T3 Mediation Analyses**

For brevity, mediation results are presented in Appendix J, and are only summarised verbally here.

#### **8.6.1: T1-T3 gbMSM Identification and Attitudes to PrEP**

The relationship between T1 GbMSM identification and T3 attitudes to PrEP (H8.1) was non-significant. No mediation was observed for T2/T3 Perceived Education of PrEP on the relationship between T1 gbMSM identification and T2/T3 attitudes to PrEP (H8.2b).

#### **8.6.2: T1-T3 gbMSM Identification, Wellbeing and SIAH Mediators**

The total effects of T1 gbMSM identification on T3 wellbeing outcomes (i.e., T3 depression, T3 anxiety, T3 stress, and T3 loneliness) were non-significant (H8.3). No mediation was observed for T2/T3 Social Support (H8.5) nor T2/T3 Perceived Personal Control (H8.7) on the relationship between T1 gbMSM identification and T3 wellbeing outcomes (i.e., T3 depression, T3 anxiety, T3 stress and T3 loneliness).

#### **8.6.3: T1-T3 Meta-perceptions of gbMSM by Healthcare Professionals and Wellbeing**

The total effects were non-significant for T1 meta-perceptions of gbMSM by Healthcare Professionals and T3 wellbeing outcomes (i.e., T3 depression, T3 anxiety, T3 stress and T3 loneliness) (H8.8). Serial mediation was not observed for T2/T3 Stigma Consciousness and T2/T3 Loneliness on the relationship between T1 meta-perceptions of gbMSM by healthcare professionals and T3 wellbeing outcomes (i.e., T3 depression, T3 anxiety, T3 stress and T3 loneliness) (H8.9/H8.10).

#### ***8.6.4: T1-T3 Meta-perceptions of PrEP Users by Healthcare Professionals and Wellbeing***

The total effects were non-significant for T1 meta-perceptions of PrEP Users by Healthcare Professionals and T3 wellbeing outcomes (i.e., T3 depression, T3 anxiety, T3 stress and T3 loneliness) (H8.11). Serial mediation was not observed for T2/T3 Stigma Consciousness and T2/T3 Loneliness on the relationship between T1 meta-perceptions of PrEP Users by healthcare professionals and T3 wellbeing outcomes (i.e., T3 depression, T3 anxiety, T3 stress and T3 loneliness) (H8.12/H8.13).

#### ***8.6.5: T1-T3 Perceived Healthcare Discrimination of gbMSM and Wellbeing***

T1 perceived healthcare discrimination of gbMSM positively predicted T3 Stress, T3 Anxiety and T3 Loneliness. The total effect of T1 perceived healthcare discrimination of gbMSM and T3 Depression was non-significant. Thus, providing partial support to H8.14. No serial mediation was observed for T2/T3 gbMSM identification and T2/T3 Perceived Personal Control on the relationship between T1 Perceived Healthcare Discrimination of gbMSM and T3 wellbeing outcomes (i.e., T3 depression, T3 anxiety, T3 stress and T3 loneliness) (H8.16).

#### ***8.6.6: T1-T3 Perceived Healthcare Discrimination of PrEP use and Wellbeing***

The total effects of T1 Perceived Healthcare Discrimination of PrEP Use on T3 wellbeing outcomes (i.e., T3 depression, T3 anxiety, T3 stress and T3 loneliness) were non-significant (H8.17). No serial mediation was observed for T2/T3 gbMSM Identification and T2/T3 Perceived

Personal Control on the relationship between T1 Perceived Healthcare Discrimination of PrEP Use and T3 wellbeing outcomes (i.e., T3 depression, T3 anxiety, T3 stress and T3 loneliness) (H8.19).

For increased clarity, a tabular summary (see Table 8.2) is included outlining whether Study 2b hypotheses were supported.

**Table 8.2**

*Summary of Study 2b Results*

Hypothesis	Predictor	Outcome	Mediator	Result
H8.1	T1 gbMSM Identification	T2/T3 Attitudes to PrEP	-	T2 Supported T3 Not Supported
H8.2a	T1 gbMSM Identification	T2/T3 Attitudes to PrEP	T2 Perceived Education of PrEP	Not Supported
H8.2b			T3 Perceived Education of PrEP	
H8.3	T1 gbMSM Identification	T2/T3 Wellbeing	-	Not Supported
H8.4/8.5			T2/T3 Social Support	Not Supported
H8.6/H8.7			T2/T3 Perceived Personal Control	Not Supported
H8.8	T1 Meta-perceptions of gbMSM by Healthcare Professionals	T2/T3 wellbeing	-	Not Supported
H8.9/H8.10			T2/T3 Stigma Consciousness and T2/T3 Loneliness	Not Supported
H8.11	T1 Meta-perceptions of PrEP Use by Healthcare Professionals	T2/T3 Wellbeing	-	Not Supported
H8.12/H8.13			T2/T3 Stigma Consciousness and T2/T3 Loneliness	Not Supported
H8.14	T1 Perceived Healthcare Discrimination of gbMSM	T2/T3 wellbeing	-	Partial Support
H8.15			T2 gbMSM identification and T2 Perceived Personal Control	Partial Support
H8.16			T3 gbMSM identification and T2 Perceived Personal Control	Not supported
H8.17	T1 Perceived Healthcare Discrimination of PrEP Users	T2/T3 Wellbeing	-	Not Supported
H8.18/H8.19			T2/T3 gbMSM identification and T2/T3	Not Supported

Note: As wellbeing consisted of multiple variables, partial support indicated that only some wellbeing outcomes (e.g., stress) were significant.

### **8.7: Study 2 General Discussion**

Study 2 quantified the variables of interest highlighted in Study 1 to further explore i) how gbMSM identification may be beneficial/detrimental to wellbeing (thus addressing thesis aim 3), and ii) further explore stigma processes underpinning attitudes to PrEP by developing a deeper understanding of intergroup relations between gbMSM and healthcare workers (thus addressing thesis aim 2). Study 2a (See Chapter 7) explored gbMSM attitudes to PrEP cross-sectionally, whereas the present chapter (i.e., Study 2b) aimed to replicate Study 2a longitudinally to explore how variables would interact over time. The extent to which gbMSM identification predicts wellbeing (i.e., thesis aim 3), was explored by examining the relationship between gbMSM identification and attitudes to PrEP and wellbeing (i.e., depression, anxiety, stress, and loneliness). Additionally, Study 2 explored whether the relationship between gbMSM identification and attitudes to PrEP/wellbeing was mediated by perceived education about PrEP, social support, and perceived personal control respectively.

To explore stigma processes underpinning attitudes to PrEP (i.e., thesis aim 2), Study 2 explored how negative gbMSM meta-perceptions of healthcare professionals may negatively predict wellbeing and whether this relationship was serially mediated by stigma consciousness and loneliness. Moreover, the possibility of negative gbMSM meta-perceptions of healthcare professionals' beliefs of PrEP negatively predicting wellbeing was also explored, as well as whether this relationship was serially mediated by stigma consciousness and loneliness.

Additionally, Study 2 also explored the relationship between perceived discrimination of gbMSM and PrEP users by healthcare professionals and wellbeing, as well as the relationship between perceived healthcare discrimination of PrEP use and wellbeing. Finally, mediation

analyses explored whether these relationships were serially mediated by gbMSM identification and perceived personal control. The present chapter shall now consider the results of Study 2a and Study 2b simultaneously to contextualise findings, in addition to considering the strengths, limitations, and implications of Study 2's results.

### **8.7.1: GbMSM Identification and Attitudes to PrEP**

Greater T1 gbMSM identification was associated with better T1 and T2 (but not T3) attitudes to PrEP. As greater gbMSM identification was associated with better attitudes to PrEP across T1 and T2 (i.e., the waves with the most statistical power), this led to the conclusion that group identification may be beneficial to gbMSM due to being associated with better attitudes to PrEP. SIAH researchers have explored how fostering a sense of belonging in students may help to improve wellbeing outcomes (i.e., Groups4Education; Dingle et al., 2022), which supports Study 2's findings. Additionally, negative attitudes to PrEP may be explained by concerns surrounding safety and stigma (Mayer et al., 2020). Therefore, if greater gbMSM identification is associated with better attitudes to PrEP, promoting gbMSM identification may be a useful way to improved stigmatised and inaccurate perceptions of PrEP.

Study 1 highlighted that PrEP users often used gbMSM-orientated spaces (e.g., gbMSM hook-up apps such as Grindr) to facilitate conversation and education surrounding PrEP with other gbMSM. Study 2a echoed these findings, highlighting that perceived education about PrEP may mediate the relationship between gbMSM identification and attitudes to PrEP. This would suggest that gbMSM identification may be associated with increased education about PrEP, which in turn was associated with better attitudes to PrEP. As PrEP is often considered normative among gbMSM, it is possible that gbMSM ingroup members could be perceived as a trusted source of education.

Previous research has suggested that peer-led education can be a successful measure to preventing HIV transmission (He et al., 2020). Moreover, it is important that PrEP education is

community-driven by the target population itself, and that education occurs in areas perceived as 'safe' spaces (Grenfell et al., 2022). The present research provides further support for these claims, suggesting that ingroup representation may be a helpful method of increasing PrEP awareness among gbMSM.

The present research also builds upon the findings of Study 1. For example, although gbMSM often displayed unhealthy norms (anticipated to be detrimental to wellbeing), Study 2 suggested that gbMSM identification could be a helpful tool in educating gbMSM and, in turn, might lead to improved attitudes to PrEP. This indicates that the relationship between gbMSM identity and health is complex, with gbMSM identity likely to result in both positive and negative influences on gbMSM health/wellbeing.

Although Study 2a indicated perceived education about PrEP mediates gbMSM identification and attitudes to PrEP, longitudinal mediation models (i.e., T2/T3 perceived education about PrEP) were non-significant. As mentioned in Study 2a (See Chapter 7), Study 2b was slightly underpowered at T2, and even more underpowered at T3, meaning results should be interpreted with caution. Moreover, consistency of attitudes to PrEP between waves was poor (significantly lower at T2 than at T1 and at T3). Therefore, before continuing with a summary of the Study 2 conclusions, it is necessary to: i) reflect on statistical power issues that are likely to have impacted Study 2b, and ii) provide additional context which may help explain why attitudes to PrEP at T2 were more negative than at T1 and T3.

### ***8.7.2: Statistical Power Issues at T2/T3***

A limitation of Study 2 was its modest sample size, meaning data lacked appropriate power for T2/T3. Moreover, as anticipated, attrition decreased sample size by approximately 20% per wave, thus further weakening longitudinal analyses statistical power for T2 and T3. Additionally, as PrEP users were asked questions relating to their actual experiences, this sometimes led to T2/T3 sample size decreasing further, as data on these items were only provided



by PrEP users. Thus, it is possible that one contributing factor underpinning non-significant results at T2/T3 is inadequate statistical power, which is supported by some results being marginally significant. Real-world events may have influenced Study 2 results, which will be discussed in the General Discussion (see Chapter 9).

### **8.7.3: GbMSM Identification and Wellbeing**

Greater T1 gbMSM identification was associated with lower T1 depression, T1 stress, and T1 loneliness. However, no significant relationship was reported between T1 gbMSM identification and T1 anxiety, nor between any T2 and T3 wellbeing variables. As T1 was the only wave of Study 2 to be adequately powered, it is plausible to conclude a link between gbMSM identification and wellbeing, even though this was not observed longitudinally. This is further reinforced by previous research highlighting a link between LGBTQ+ identity and wellbeing (e.g., Berger et al., 2022; Fingerhut et al., 2010; Frable et al., 1997; King & Smith, 2004), as well as by SIAH research on how group identification can be beneficial to wellbeing (e.g., Cruwys et al., 2014; Haslam et al., 2018; Haslam & Reicher, 2006; Jetten et al., 2017, 2012; Sani, 2012). Although previous SIAH research has shown longitudinal relationships between identification with various social groups and wellbeing (e.g., Haslam et al., 2009; Wakefield et al., 2020a), Study 2 did not report this. However, it is possible to argue that issues of variable consistency (i.e., T2 stress, as discussed above for T2 attitudes to PrEP), and insufficient statistical power may have contributed to non-significant results. Moreover, it is important to emphasise that the relationship between gbMSM identification and wellbeing is likely to be complex due to gbMSM being considered a stigmatised group. Indeed, SIAH research has argued that stigmatised groups often display a more nuanced relationship between identification and wellbeing, involving an interplay of Social Cure/Social Curse processes (e.g., Bowe et al., 2019; Hogg et al., 2022; Kellezi et al., 2019; Wakefield et al., 2019). Thus, for minority groups such as gbMSM, it is possible that the relationship between gbMSM identification and wellbeing may be more complex than was accounted for in Study 2's

models, and thus it could be argued future research is required to expand on a potential link between gbMSM identification and wellbeing.

**8.7.3.1: Social Support as a Mediator.** SIAH research has evidenced how group resources (e.g., social support) can act as a buffer against negative wellbeing outcomes (Avanzi et al., 2018; Haslam et al., 2016, 2018; Haslam et al., 2005; Jetten et al., 2017b; Jetten, Haslam, & Haslam, 2012) across a wide array of contexts. However, Study 2a only partially supported this research, by providing evidence of social support mediating the relationships between gbMSM identification and stress and loneliness, but not the relationships between gbMSM identification and depression or anxiety. Furthermore, Study 2b did not show that social support acts as a mediator of the relationship between gbMSM identification and wellbeing. Due to Study 2 applying a SIAH lens to gbMSM attitudes to PrEP, results are novel, and thus it is difficult to consider why social support was not indicated to mediate the relationship between gbMSM identification and wellbeing, especially when the importance of support is often highlighted in gbMSM research contexts (e.g., Giovenco et al., 2023; Sattler et al., 2016). Study 2 focussed on support provided by fellow gbMSM, although it is possible that perceived outgroup support (e.g., whether a healthcare professional is supportive to gbMSM; e.g., Calabrese et al., 2017) may be more relevant to gbMSM experiences. Moreover, it is also possible that the relationship between gbMSM identification and gbMSM social support is more complex than what was modelled in Study 2, with other SIAH key moderators and mediators potentially helping explain the relationship between identification and social support in gbMSM. It seems plausible that additional and/or separate SIAH variables may help explain this relationship as (non-social identity) gbMSM research has highlighted the benefits of SIAH mediators such as collective efficacy (e.g., Teng & Mak, 2011). Additionally, as a stigmatised group, it is possible to argue a link between gbMSM identification on wellbeing could be partially explained by gbMSM group esteem. This is further supported by group esteem being observed as a moderator of the relationship between identification and wellbeing (DeMarco &

Newheiser, 2019), although it was noted that the relationship was only observed for participants who are high in group esteem.

Although significant results for social support as a mediator were limited, it is possible that social support may have greater power to predict wellbeing outcomes (i.e., stress and loneliness), than health outcomes (i.e., depression and anxiety). This conclusion is supported by minority stress approaches to gbMSM health, whereby it could be argued that social support helps mitigate the stress and isolation associated with gbMSM's everyday experiences of minority discrimination (e.g., Dentato et al., 2013; Fingerhut et al., 2010; Meyer, 1995; Sattler et al., 2016). It is possible to argue that if social support is associated with reduced stress and loneliness, this in turn may result in reduced depression and anxiety (i.e., stress/loneliness predicts health outcomes such as depression and anxiety). Thus, although social support remains a useful resource to gbMSM, gbMSM support processes may involve more complex mechanisms than accounted for in Study 2. As few studies have applied a SIAH lens to understand the behaviour of gbMSM, the present research suggests that other SIAH mediators may better explain the relationship between gbMSM identification and wellbeing, such as perceived personal control.

**8.7.3.2: Perceived Personal Control as a Mediator.** Study 2 also highlighted how perceived personal control may mediate the relationship between T1 gbMSM identification and wellbeing. Study 2a showed mediation across all wellbeing measures apart from anxiety (i.e., depression, stress, and loneliness), thus supporting prior research illustrating how greater identification may increase perceived personal control, which in turn acts as a buffer against negative wellbeing outcomes (Greenaway, Haslam, et al., 2015). Although results were non-significant longitudinally, this could be explained by lack of statistical power. Thus, due to perceived personal control mediating the relationship between gbMSM identification and all wellbeing outcomes at T1 (i.e., the only time-point with adequate power), it is possible to argue that perceived personal control may buffer against negative wellbeing outcomes in a gbMSM context. Furthermore, research on particularly vulnerable gbMSM populations (such as those LWHIV), have explored how a lack of

perceived personal control may contribute to loneliness (e.g., Gordijn & Boven, 2009). As loneliness and isolation are often reported by gbMSM (e.g., Fekete et al., 2018), this further emphasises the plausibility of perceived personal control mediating the relationship between gbMSM identification and wellbeing.

Although perceived personal control has been widely explored in a gbMSM context, research often conceptualises control as representative of solely the individual, rather than considering how perceived personal control may be facilitated by group processes. Although the decision to take PrEP is likely to be perceived as a personal choice (i.e., PrEP protects the individual from HIV), it is possible to argue that the control and agency associated with PrEP invariably impacts gbMSM on a community level, and thus enhances perceived collective control (i.e., PrEP users are highly unlikely to transmit HIV to sexual partners, regardless of their own personal PrEP status). Thus, although the decision to take PrEP may be individually driven (i.e., “I am protected against HIV”), it can be argued that the control of sexual health gained from PrEP usage expands to the gbMSM community (i.e., “We are protected against HIV”). Therefore, it is arguable that further research on gbMSM attitudes to (and decisions to take) PrEP needs to further consider the nuances of perceived personal control in this context due to the inherent community implications of an individual’s decision regarding whether to take PrEP. Future research may benefit from exploring how the agency gained from PrEP usage (i.e., the control of one’s own HIV status) may relate to perceived collective control as a group resource, to reflect further on how agency of PrEP status and gbMSM-based control may impact wellbeing.

#### ***8.7.4: Relationships Between Meta-perceptions of gbMSM and PrEP users by Healthcare Professionals and Wellbeing***

Although meta-perceptions of gbMSM by healthcare professionals and meta-perceptions of PrEP users by healthcare professionals were tested separately, it is helpful to discuss results collectively. Study 2 built upon Study 1 and research on attitudes to PrEP (e.g., Chittamuru et al.,

2020; Jaspal et al., 2019; Jaspal & Daramilas, 2016; Jaspal & Nerlich, 2016) to explore how stigma processes may be underpinned by meta-perceptions of gbMSM by healthcare professionals. At T1, meta-perceptions of gbMSM by healthcare professionals were found to be associated with worse T1 depression and T1 stress, but not T1 anxiety (loneliness was not tested as an outcome for meta-perception models due to being explored as a mediator). Moreover, Study 2a also highlighted the belief that healthcare workers hold negative perceptions of PrEP use at T1 (i.e., meta-perceptions) to be associated with increased depression and stress at T1, although longitudinal hypotheses were non-significant. Although results were non-significant longitudinally, this may be partially explained by lacking statistical power, thus leading to a primary focus on Study 2a (i.e., the only analyses with sufficient power).

The negative relationship between T1 meta-perceptions of gbMSM by healthcare professionals and mental wellbeing at T1 can be argued to reflect the historical difficulties between gbMSM and healthcare workers discussed throughout this thesis (e.g., Fuzzell et al., 2016; Kia et al., 2022; Mbeda et al., 2020; McNeill et al., 2021; Ogden et al., 2020; Quinn et al., 2019; Rose et al., 2017). Although groups utilise meta-stereotypes and meta-perceptions for a variety of reasons (e.g., Fasel et al., 2021; Gómez, 2002; Hinton et al., 2019; Klein & Azzi, 2001; Koudenburg & Gordijn, 2011; Vorauer et al., 1998), it is possible that, in a gbMSM context, meta-perceptions of healthcare workers can be best understood within the context of help-seeking transactions. As healthcare workers and gbMSM historically have often experienced fraught intergroup interactions (See Chapter 2), it is possible to argue that gbMSM members would perceive their gbMSM identity as being highly salient during help-seeking transactions within healthcare contexts. Indeed, previous research has shown that when a group membership is salient to a group member, the fear of potentially affirming negative stereotypes of that group through one's help-seeking behaviour may be sufficient to deter help-seeking behaviour (Wakefield et al., 2013). Thus, as both gbMSM and PrEP have both been associated with negative stereotypes such as promiscuity (Hackl & Newman, 2015; Hascher et al., 2023; Rice et al., 2022), it

is possible that fear of affirming stereotypes such as gbMSM as promiscuous may hinder help-seeking transactions. In turn, it could be anticipated that negative meta-perceptions held by gbMSM about how healthcare professionals perceive them could result in poor wellbeing outcomes, due to feeling unable to access sexual health services. Although participants who answered meta-perceptions of PrEP users by healthcare professionals were not PrEP users (and thus a PrEP user identity would not be salient), it is possible that due to the arguably normative attitudes towards PrEP by gbMSM (Heredia & Goldklank, 2021), PrEP may be perceived as central to core values of gbMSM, and therefore may also be explained through help-seeking transactions (i.e., due to PrEP being associated with similar stereotypes such as promiscuity). Moreover, even though many participants had no experience of PrEP use, meta-perceptions of PrEP users by healthcare professionals were still associated with negative wellbeing outcomes, further supporting PrEP as a core value to gbMSM identity. This is different to Study 1, which highlighted how PrEP users and gbMSM were often treated differently, and thus indicates a significant change to attitudes to PrEP across this thesis, which will be discussed in more detail in the following chapter (See Chapter 9).

**8.7.4.1: Stigma Consciousness and Loneliness as Mediators.** Study 2a also showed that the relationship between negative meta-perceptions of gbMSM by healthcare professionals and wellbeing was serially mediated by stigma consciousness and loneliness (although indirect effects highlighted marginal significance), which in turn predicted higher levels of T1 depression, T1 anxiety, and T1 stress (although findings were non-significant longitudinally). As previously mentioned, fear of affirming negative stereotypes of a group can limit help-seeking when group identity is salient (Wakefield et al., 2013). The findings of Study 2 support literature emphasising the link between meta-perceptions, meta-prejudice, and stigma (e.g., Gómez, 2002; Otten, 2002), suggesting that the belief that healthcare workers hold negative perceptions of gbMSM (i.e., negative meta-perceptions) may help explain stigmatised interactions between gbMSM and healthcare workers. It could be suggested that gbMSM may perceive healthcare workers to hold

negative perceptions of gbMSM and PrEP (regardless of whether healthcare workers actually perceive gbMSM negatively). If gbMSM perceive healthcare professionals to hold negative perceptions of gbMSM and PrEP, gbMSM may perceive healthcare professionals as the outgroup (e.g., Klein & Azzi, 2001), which could help explain the how negative meta-perceptions and perceived stigma have been associated with loneliness in gbMSM contexts (Gordijn & Boven, 2009). Thus, although negative meta-perceptions may be associated with poorer wellbeing outcomes, it is also possible that negative meta-perceptions are linked to increased stigma consciousness. The findings of Study 2 are supported by how healthcare related stigma is often associated with negative wellbeing outcomes in gbMSM (O'Byrne & Watts, 2014).

Study 2 also showed that stigma consciousness is a positive predictor of loneliness, which in turn positively predicted depression, anxiety, and stress. This is supported by social identity research showing that family identification positively predicts sleep quality, which is achieved though attenuating the negative serial relationships between loneliness, depression, and sleep quality (Wakefield et al., 2020). Thus, although Study 2 explored meta-perceptions (which arguably may not accurately reflect healthcare workers' actual perceptions), it was still found that negative meta-perceptions of both gbMSM and PrEP users by healthcare professionals were associated with increased stigma consciousness, which in turn was associated with increased loneliness, which in turn was associated with poorer wellbeing outcomes. As discussed earlier in this thesis (e.g., See Chapter 5), this indicates it may not be necessary for gbMSM to be exposed to negative perceptions and/or discrimination: anticipating negative perceptions may be sufficient to result in poorer wellbeing outcomes. It is possible to argue that to improve gbMSM and healthcare worker transactions, gbMSM may benefit from healthcare workers ensuring that they provide a supportive environment free of judgement (e.g., Calabrese et al., 2017). Due to the wider applications of this conclusion to the thesis as a whole, this shall be discussed amongst policy recommendations in the General Discussion (See Chapter 9).

#### ***8.7.5: Perceived Healthcare Discrimination of gbMSM and PrEP Users and Wellbeing***

Study 2 also elaborated on stigma processes underpinning gbMSM attitudes to PrEP by exploring the relationship between perceived discrimination of gbMSM by healthcare professionals and wellbeing. Greater T1 perceived healthcare discrimination of gbMSM was associated with worse T1 wellbeing (i.e., depression, anxiety, stress, and loneliness), as well as more T2 and T3 stress, and more T3 loneliness. These findings are supported by research highlighting the detrimental effects of discrimination on gbMSM wellbeing (e.g., Lee et al., 2016; McGarrity et al., 2013; Rice et al., 2022; Ruben et al., 2019). Study 2 also reported perceived discrimination of PrEP users by healthcare professionals was associated with worse T1 wellbeing, although this relationship was not found for T2/T3 wellbeing, which may be attributable to statistical power, leading to a primary focus on Study 2a's results.

The relationships between perceived discrimination of gbMSM and PrEP users by healthcare professionals and wellbeing are supported by previous SIAH research exploring how stigmatisation can further emphasise the divide between service users and service providers, thus acting as a Social Curse within communities (e.g., Stevenson et al., 2014). Indeed, as gbMSM may anticipate discrimination from healthcare professionals, this may be detrimental to a sense of community identity, and therefore result in healthcare professionals being perceived as part of the outgroup, as opposed to an integral part of the gbMSM community. Moreover, even though PrEP use was controlled for, Study 2 still highlighted a link between increased perceived discrimination of PrEP users by healthcare professionals and worse wellbeing outcomes, further supporting earlier claims in this chapter that PrEP and PrEP use is central to gbMSM identity.

It is also important to acknowledge that Study 2's findings regarding the relationship between perceived discrimination of gbMSM/PrEP users by healthcare professionals and wellbeing may also limit help-seeking. As Study 2 showed, meta-perceptions may hinder help seeking transactions, and it is possible that perceived discrimination of gbMSM and PrEP users by healthcare professionals may further complicate help-seeking behaviours. This is particularly relevant to gbMSM due to SIAH research exploring the complex attitudes to help-seeking reported



in other stigmatised contexts, such as accessing foodbanks (e.g., Bove et al., 2019). Due to the reliance on healthcare professionals to administer PrEP, any perceived discrimination of either/both gbMSM and PrEP users could lead gbMSM to decide not to seek/request PrEP, which in turn could increase HIV transmission. The implications of these results shall be discussed further in the following chapter to reflect policy recommendations (See Chapter 9).

#### **8.7.5.1: Serial Mediation of gbMSM identification and Perceived Personal Control.**

Consistent with the Rejection Identification Model (RIM; Branscombe et al., 1999), Study 2a indicated that T1 perceived discrimination of gbMSM and PrEP users by healthcare professionals was associated with greater T1 gbMSM identification. Moreover, T1 gbMSM identification was associated with increased T1 perceived personal control, which in turn acted as a buffer against negative wellbeing outcomes (i.e., T1 depression, T1 anxiety, T1 stress, and T1 loneliness). Study 2b indicated that serial mediation of T2 gbMSM identification and T2 perceived personal control on perceived discrimination of gbMSM by healthcare professionals and T2 depression, T2 stress and T2 anxiety was significant, but all other T2/T3 analyses were non-significant.

Study 2a also showed serial mediation for T1 gbMSM identification and T1 perceived personal control on T1 perceived discrimination of PrEP users by healthcare professionals and T1 wellbeing. Study 2b reported T2 identification and T2 perceived personal control to mediate the relationship between T1 perceived healthcare discrimination of PrEP and T2 depression and T2 anxiety, with all other T2/T3 models being non-significant, making it difficult to form longitudinal conclusions. As discussed previously, results can likely be explained by the RIM (Branscombe et al., 1999). However, results also indicated that increased gbMSM identification was associated with increased perceived personal control, which is supported by research showing that perceived personal control mediates the relationship between group identification and wellbeing (e.g., Greenaway et al., 2015). Although perceived discrimination may be associated with negative

wellbeing outcomes, it may also encourage gbMSM to collectively identify as a group, thus unlocking access to health-promoting psychological resources for group members.

As perceived discrimination may facilitate a sense of solidarity amongst gbMSM, it is possible that the unlocking of other group resources (i.e., Social Cure mediators such as collective efficacy and collective action) may help explain the positive relationship between discrimination and identification. It also seems necessary for future research to further explore the impact of discrimination (from healthcare workers and other outgroups) on gbMSM wellbeing. Indeed, if discrimination is associated with increased gbMSM identification, it is possible that gbMSM solidarity when facing such discrimination could be explained by a range of key SIAH mediators, such as social connectedness (e.g., Kellezi et al., 2019; Pflum et al., 2015; Wakefield et al., 2022), collective efficacy, and collective action (e.g., Foster, 2014; Muldoon et al., 2017; Tréré, 2015), which may further explain how gbMSM identification may protect against negative wellbeing outcomes in the context of discrimination.

### **8.8: Study 2 Conclusion**

In summary, Study 2 aimed to address thesis aim 3 (exploring how groups may be beneficial or detrimental to gbMSM wellbeing) by quantitatively exploring gbMSM attitudes to PrEP through the novel application of the SIAH. Study 2 highlighted potential relationships between gbMSM identification, wellbeing, and SIAH mediators, indicating that although sexual minorities are often understudied in SIAH research, a SIAH lens can be helpful in understanding how group-based approaches impact sexual minority members' health. However, although it was anticipated that variables such as social support would be highly relevant to gbMSM, this was not observed in the results, and therefore it may be necessary to conduct further research to explore additional mediators (e.g., collective esteem), as well as potential moderators of the relationship between gbMSM identification and gbMSM social support.

Additionally, although stigma is often associated with PrEP, stigma processes are rarely expanded on within research. As it difficult to challenge stigma without understanding potential stigma processes underpinning attitudes to PrEP, Study 2 provides promising findings with both theoretical and practical relevance. Indeed, Study 2 explored the link between negative meta-perceptions of gbMSM and PrEP users by healthcare professionals and wellbeing, which was discussed to potentially be harmful to help-seeking transactions with healthcare professionals. Moreover, although Study 2 only analysed non-PrEP users' meta-perceptions of PrEP users (i.e., due to PrEP users likely having different experiences/beliefs regarding this variable), negative meta-perceptions of PrEP users by healthcare professionals were still associated with poorer wellbeing outcomes.

Although perceived discrimination of gbMSM and PrEP users by healthcare professionals was associated with poor wellbeing, perceived discrimination was also associated with gbMSM identification, suggesting that the RIM may be helpful in understanding gbMSM experiences of stigma and discrimination. Moreover, as serial mediation was observed (i.e., gbMSM identification positively predicted perceived personal control, which in turn predicted wellbeing outcomes), this further suggests that group-based resources are helpful for gbMSM who are dealing with stigma and discrimination in contexts such as PrEP use.

The primary limitation of Study 2 was inadequate statistical power. Sufficient statistical power was present at T1 but not at T2 or T3, thus leading to a greater emphasis being placed on the results of Study 2a and cautious interpretation of Study 2b (i.e., where T2 was slightly underpowered and T3 was underpowered). Issues of statistical power were worsened by the (anticipated) 20% attrition per wave due to the longitudinal design of Study 2b. Moreover, as it was necessary to be inclusive and include participants who had and had not taken PrEP, this led to some analyses having smaller samples due to participants only answering questions based on their specific experiences (See Appendix E). Although it could be suggested that future research into how SIAH processes may underpin gbMSM attitudes to PrEP would benefit from a larger

sample, it is also possible to argue that Study 2's longitudinal design may not be optimal for gbMSM. Indeed, as a minority (and stigmatised) group, gbMSM may be more likely to be impacted by real-world events (such as the Mpox outbreak), which may have influenced Study 2b results. Due to the importance of ensuring that the design of research is optimal, this shall be discussed in greater depth in the following chapter to reflect the merits of this thesis's design, and how the design of this thesis may help inform optimal research design for researchers in similar contexts (e.g., gbMSM).

Although the present chapter has begun to reflect on wider implications of the present research (i.e., through their applications to Study 2), the following chapter has highlighted the necessity of broader discussion to consider how the present thesis can be perceived collectively. Indeed, by reflecting on theoretical chapters, Study 1, and Study 2 of this thesis collectively, it is possible to address broader applications of the present research, and to emphasise the contributions of the present research to improving the understanding of gbMSM attitudes to PrEP. Thus, the following chapter shall offer a General Discussion of this thesis, reflecting on the novelty, strengths, and limitations of how gbMSM attitudes to PrEP may be understood through a SIAH lens.

## Chapter 9: General Discussion and Policy Recommendations

### 9.1: Central Thesis Objective

This thesis's central objective was to use the social identity approach to explore whether (and if so, how) group processes underpin gbMSM's attitudes to PrEP, and what the health-related outcomes of these attitudes may be. The central objective was addressed through Study 1 (See Chapters 4, 5, and 6) and Study 2 (See Chapters 7 and 8) which highlighted how gbMSM attitudes to PrEP may be underpinned by intragroup and intergroup processes. A novel contribution of this thesis was the application of a SIAH approach which enabled the present research to explore how group-based processes may impact gbMSM health and wellbeing (particularly in a sexual health context).

### 9.2: Thesis Aims

The present thesis had four aims (intended to address the central thesis objective):

**Thesis aim 1 (Addressed by Study 1):** to explore the sexuality-related norms of the gbMSM community, and to consider their relationship with attitudes to PrEP.

**Thesis Aim 2 (Addressed by Study 2):** To explore the group-related stigma processes underpinning gbMSM's attitudes to sexuality, HIV, and PrEP, and how these relate to gbMSM health/wellbeing.

**Thesis Aim 3 (Addressed by Studies 1 and 2):** To advance theoretical understandings of how groups may benefit and harm health.

**Thesis Aim 4 (Addressed by Policy Recommendations, see later):** To make practical recommendations that will enable the knowledge gained from this thesis to be applied to the real world, so as to benefit gbMSM and wider society.

### 9.3: Summary of Literature Review

The central objective of this thesis was formulated through a review of relevant literature surrounding gbMSM, HIV, and PrEP. Theoretical chapters indicated that although social processes such as norms are likely to play fundamental roles in the transmission/prevention of HIV, research often neglects the importance of social processes in determining gbMSM sexual health outcomes. Moreover, although anyone can be exposed to HIV, attitudes stemming from the HIV/AIDS Crisis of the 1980/90s suggesting a stigmatised link between gbMSM and HIV are still present in current society, which may influence dynamics between groups such as gbMSM and healthcare professionals. Although knowledge surrounding HIV has improved, to the extent that the viral load of those LWHIV can become undetectable (thus meaning they are unable to transmit the virus; Eisinger et al., 2019), HIV remains highly stigmatised. In turn, this thesis argued that society's act of associating a stigmatised virus (i.e., HIV) with an already stigmatised sexual minority group (i.e., gbMSM) promotes poor gbMSM wellbeing.

This thesis's theoretical chapters also explored how although PrEP prevents HIV infection, gbMSM attitudes to PrEP (and how outgroups may perceive gbMSM and PrEP) could hinder PrEP's efficacy. It was noted that the 'stigma by association' reported between gbMSM and HIV extended to PrEP, with PrEP often being associated with wider gbMSM-based stereotypes such as promiscuity and sexual risk-taking, thereby leading to stigmatisation by both gbMSM and healthcare professionals. Therefore, although PrEP could theoretically eradicate HIV, the social harm caused by stigma may lead to negative perceptions of PrEP, which may in turn prevent at-risk individuals from seeking/using it.

Previous PrEP and gbMSM sexual health-related research has highlighted the complex intergroup transactions between gbMSM and healthcare professionals (O'Byrne & Watts, 2014), negative associations between attitudes to gbMSM and attitudes to PrEP (Jaspal et al., 2019), and gbMSM self-stigmatising PrEP users (Pawson & Grov, 2018), thus increasing the plausibility of this thesis's assumption that gbMSM attitudes to PrEP are underpinned by intragroup and intergroup processes. Thus, it was argued that a SIAH perspective may be helpful in understanding how

group-based processes might underpin gbMSM attitudes to PrEP and in turn, how group-based processes may underpin gbMSM health and wellbeing.

#### **9.4: Summary of Findings**

Study 1 addressed the central thesis objective by qualitatively exploring whether and how gbMSM attitudes to PrEP may be underpinned by group processes. Consistent with this, Study 1's findings suggested that gbMSM attitudes to PrEP may be underpinned by: intragroup processes (Study 1a, See Chapter 4), intergroup processes (Study 1b, See Chapter 5), and wider societal processes (Study 1c, See Chapter 6).

Study 1a highlighted that intragroup processes may be helpful in understanding gbMSM attitudes to PrEP. This was primarily observed through perceptions of gbMSM norms and shared beliefs, with gbMSM reporting differing normative expectations of PrEP users. Indeed, although gbMSM often reported liberal attitudes to sex and risky sexual behaviour as being normative among gbMSM, gbMSM who were also PrEP users were often negatively judged for their sex-positive behaviours, with gbMSM often associating PrEP use with promiscuity. Therefore, although possessing multiple group memberships benefits wellbeing (Sani et al., 2015b), gaining a PrEP-user identity was often tied to ingroup gbMSM stigmatisation, possibly attributed to gbMSM fearing PrEP users would affirm negative stereotypes such as promiscuity, which are frequently associated with both gbMSM and PrEP users (Hackl & Newman, 2015).

Study 1a also explored how normative processes may underpin gbMSM attitudes to PrEP, highlighting that unhealthy gbMSM norms may result in negative health consequences such as poor sexual health and increased risk of HIV transmission (addressing thesis aim 1). Due to the theoretical and practical implications of gbMSM normative behaviour underpinning attitudes to PrEP, this will be discussed in greater detail later.

Study 1b explored intergroup relationships between gbMSM and outgroups (i.e., heterosexuals and healthcare professionals). Although some gbMSM reported experiencing

stigmatised interactions with heterosexuals and healthcare professionals, discrimination and stigma were largely anticipated (as opposed to experienced). Moreover, gbMSM often used meta-stereotypes and meta-perceptions to make sense of their intergroup interactions, which often centred around gbMSM beliefs that healthcare professionals would hold negative perceptions of gbMSM and PrEP users. It was concluded that negative meta-perceptions of gbMSM and PrEP users by healthcare professionals may be associated with negative wellbeing, which was further supported by Study 2 showing a link between negative meta-perceptions of gbMSM/PrEP users by healthcare professionals and poorer wellbeing (addressing the thesis central objective and thesis aim 3).

Study 1c built upon the intragroup and intergroup findings of Study 1a and Study 1b to discuss how wider societally driven issues such as education, legislation, and the media may impact on attitudes to PrEP. Although intragroup and intergroup processes were still observed in Study 1c (thus contributing to the central thesis objective), it was often reported that gbMSM health contexts (including PrEP) were systemic, leading to poor gbMSM representation in the media and in sexual health education contexts. Due to the practical implications of Study 1c's findings, findings will be discussed in greater detail later.

Study 1 provided initial qualitative support for group processes underpinning gbMSM attitudes to PrEP. Study 2 then sought to replicate these findings quantitatively with a focus on how group processes underpinning gbMSM may predict health outcomes (thus further addressing the thesis's central objective). Study 2 highlighted a positive association between gbMSM identification and attitudes to PrEP. Moreover, Study 2 showed that well-established mediators of the relationship between group identification and health/wellbeing such as social support (e.g., Haslam et al., 2016) and perceived personal control (e.g., Greenaway et al., 2015) help to explain the relationship between greater gbMSM identification and better wellbeing outcomes.



Study 2 also offered potential insight into processes underpinning gbMSM and PrEP stigma. Indeed, as negative meta-perceptions of gbMSM and PrEP users by healthcare professionals were associated with poorer wellbeing outcomes, it was concluded that stigmatised interactions between gbMSM and healthcare professionals may be underpinned by meta-perceptions, as opposed to gbMSM necessarily experiencing direct blatant discrimination from healthcare professionals (contributing to thesis aims 2 and 3). Moreover, the relationship between negative meta-perceptions of gbMSM/PrEP users by healthcare professionals and wellbeing was found to be mediated by stigma consciousness and loneliness, suggesting that stigma consciousness and loneliness may be associated with worse wellbeing outcomes, supporting previous research on the impact of stigma and loneliness on wellbeing (Cruwys & Gunaseelan, 2016; Fekete et al., 2018; Fable et al., 1997; Lyons et al., 2022; Wakefield et al., 2020b).

Study 2 also highlighted that perceived discrimination of gbMSM and PrEP users by healthcare professionals was associated with poorer wellbeing outcomes. However, it was also found that perceived discrimination of both gbMSM and PrEP users by healthcare professionals positively predicted gbMSM identification, which positively predicted perceived personal control, suggesting possible benefits to gbMSM identification (i.e., perceived personal control may act as a buffer against negative wellbeing outcomes). Although discrimination was associated with poorer wellbeing outcomes, gbMSM group identification may provide psychological resources that could minimise the negative effects of discrimination. Therefore, the present research highlights that due to their minority status resulting in rejection identification (Branscombe et al., 1999), the relationship between gbMSM identification and wellbeing is likely a complex mix of Social Cure and Curse (addressing thesis aim 3).

### **9.5: Integrating Study 1 and Study 2 Findings**

Study 1 and Study 2 provide a novel insight into how group-based processes may influence gbMSM attitudes to PrEP, and how such group-based processes may underpin health

outcomes (addressing the central thesis objective). First, the implications of the thesis's findings for gbMSM attitudes to PrEP will be considered. Then, because this work is the first to explore attitudes to PrEP from the SIAH perspective, the implications of the research for the broader SIAH literature will be considered.

## **9.6: Implications for gbMSM Attitudes to PrEP**

### ***9.6.1: Enduring associations between gbMSM, HIV, and The HIV/AIDS Crisis.***

As stated throughout this thesis, although stigma surrounding PrEP is often discussed, research has often failed to adequately unpack stigma processes to explore what may underpin PrEP stigma (and therefore provide insights into minimising its social harm). The present research addressed these shortcomings by recognising that gbMSM attitudes to PrEP may be influenced by broader socio-cultural events such as the HIV/AIDS Crisis of the 1980s/90s, which has often fuelled hostile relationships between gbMSM and outgroups such as heterosexuals and healthcare professionals (Cullen, 2003), and has created highly stigmatised associations between gbMSM and HIV (e.g., Frank et al., 2019; Sandstorm, 1990; Tan et al., 2020). The hypothesised importance of socio-cultural factors (e.g., society's treatment of gbMSM during the HIV/AIDS Crisis) was highlighted in the present research, which showed that many of the contemporary issues faced by gbMSM were also observable during the HIV/AIDS Crisis. Indeed, this thesis highlighted that HIV is still frequently perceived as a gbMSM-orientated virus, and, by extension PrEP is frequently perceived as a gbMSM-orientated drug. This supports previous research showing that attitudes to gay men mediate attitudes to PrEP (Jaspal et al., 2019).

The perception of HIV and PrEP as being gbMSM-orientated was highlighted by gbMSM participants in Study 1, who anticipated that heterosexual awareness of PrEP would be poor, due to heterosexuals not perceiving HIV as a threat to their personal health. This has important implications for current research surrounding attitudes to PrEP and HIV. Indeed, heterosexuals have been suggested to ignore/underestimate their risk of HIV infection (Baggaley et al., 2013).

This is problematic, as associations between HIV and gbMSM lead to other at-risk populations such as Black and South Asian heterosexual men not perceiving their heterosexual sexual activity as a risk factor for HIV (Etowa et al., 2023; Rashid et al., 2023). Moreover, the fact that heterosexual attitudes to HIV are still associated with homophobia (Hopwood & Connors, 2002) suggests that sustaining stigmatised links between gbMSM, HIV, and PrEP may further ‘spoil’ a gbMSM identity (e.g., Goffman, 1964; Orne, 2013). Therefore, the present research suggests that stigmatised associations between gbMSM and HIV/PrEP may be detrimental to wellbeing, which has been supported by contemporary research (Brown et al., 2017; Chittamuru et al., 2020).

Although attitudes to gbMSM and HIV have improved since the HIV/AIDS Crisis, this thesis highlighted that gbMSM still anticipate discrimination in healthcare contexts, highlighting the enduring nature of stigmatised intergroup interactions. This is supported by previous research highlighting the strained relationships between gbMSM and healthcare professionals (e.g., Fingerhut & Abdou, 2017; Fuzzell et al., 2016; Kia et al., 2022; O’Byrne & Watts, 2014). The present research indicates that gbMSM perceive themselves as separate from healthcare professionals, and therefore instead of healthcare staff being perceived as members or allies of the gbMSM community (who can therefore be trusted), they are instead perceived as an outgroup. Previous social identity research has highlighted the harm associated with an ‘us’ versus ‘them’ mentality in similar contexts, indicating that division may lead to greater prejudice and a lack of compassion for AIDS patients (Devine et al., 1999), thus supporting this thesis’s research. As such, it is possible that stigmatised intergroup interactions between gbMSM and healthcare professionals could promote Social Curse processes and negative health-related outcomes, such as low uptake of and engagement with medical help. This is supported by previous SIAH research highlighting how stigmatised interactions between service users and service providers may be associated with poorer wellbeing outcomes in disadvantaged populations (Stevenson et al., 2014). As Stevenson and colleagues (2014) suggest, fostering a sense of community and collective identity may reduce the Social Curse processes of intergroup stigmatised interactions. In the

current context, this suggests that if gbMSM perceived healthcare professionals as part of their community (or at least as an outgroup ally), this may help to reduce the tension reported between gbMSM and healthcare professionals.

### **9.6.2: GbMSM, HIV, and PrEP Stigma**

Although the theoretical chapters of this thesis discussed the associations between gbMSM, HIV, and PrEP stigma (e.g., Biello et al., 2017; Brooks et al., 2019; Chittamuru et al., 2020; Eaton et al., 2017; Franks et al., 2018; Jaspal & Daramilas, 2016; Keene et al., 2021; Meanley et al., 2021; Puppo et al., 2020; Schwartz & Grimm, 2019), the present research indicated that stigma processes were more nuanced than previously suggested. Indeed, although experiences of stigma and healthcare discrimination did occur, gbMSM often reported anticipated (rather than experienced) stigma from heterosexuals and healthcare professionals, which was also associated with negative wellbeing outcomes. Although, historically, gbMSM were likely to have experienced significant blatant stigma, modern societal perceptions of gbMSM have improved. However, this thesis highlights that merely anticipating stigma may be associated with negative gbMSM wellbeing. Therefore, the present research expanded on knowledge regarding stigma processes underpinning gbMSM and PrEP and showed that negative meta-perceptions of gbMSM and PrEP users by healthcare professionals were associated with poorer wellbeing outcomes. This is supportive of previous research in similar contexts highlighting the association between negative meta-stereotypes of gbMSM LWHIV and loneliness (Gordijn & Boven, 2009). Therefore, (addressing thesis aim 2) meta-perceptions of gbMSM by healthcare professionals seem to underpin gbMSM stigma processes, leading to gbMSM believing healthcare professionals will perceive gbMSM negatively. As reported in this thesis and in previous literature (Hackl & Newman, 2015; Pawson & Grov, 2018; Watts & O'Byrne, 2019), gbMSM are often associated with stereotypical attributes such as promiscuity. If gbMSM believe that healthcare professionals will endorse negative stereotypes such as the belief that all gbMSM are promiscuous, then this may hinder gbMSM help-seeking, as suggested by previous social identity research discussed in

Chapter 8 (e.g., Wakefield et al., 2013). If gbMSM feel unable to access help due to fears that their behaviour might inadvertently affirm healthcare professionals' negative gbMSM stereotypes, PrEP uptake could be limited. Additionally, the fact that PrEP use is also associated with promiscuity (Hackl & Newman, 2015) could further problematise intergroup interactions, as gbMSM may avoid accessing PrEP-related healthcare services to avoid negative associations of promiscuity.

The present research also showed that perceived discrimination of gbMSM by healthcare professionals was associated with poorer wellbeing, supporting previous findings regarding the impact of healthcare workers' gbMSM discrimination on gbMSM wellbeing (Fuzzell et al., 2016; Kia et al., 2022). Additionally, although PrEP use was statistically controlled for in Study 2, perceived discrimination of PrEP users by healthcare professionals was also associated with poorer wellbeing outcomes. This finding supports this thesis's argument that PrEP has become embedded into gbMSM culture (Heredia & Goldklank, 2021), and therefore PrEP use is normative to gbMSM. However, although Study 1's results suggested that gbMSM often stereotype other gbMSM PrEP users, PrEP users were still perceived as part of the gbMSM community. It is possible to suggest that results could be explained through an ingroup sensitivity effect (e.g., Hornsey et al., 2002), such that discrimination of PrEP from ingroup members could be perceived as less threatening and more legitimate than from outgroups such as healthcare professionals. Although Study 1 reported gbMSM often stereotyped PrEP users, PrEP users could be perceived as a subgroup of gbMSM, which may explain why negative ingroup representations of PrEP were not reported to harm wellbeing. However, healthcare professionals would likely be perceived as outgroup members, and therefore could be argued to be perceived as more threatening to gbMSM, thus leading to poorer wellbeing.

Although perceived discrimination of gbMSM and PrEP users by healthcare professionals was associated with negative wellbeing outcomes, it was also reported that perceived discrimination was associated with increased gbMSM group identification, which positively predicted perceived personal control, which in turn buffered against negative wellbeing outcomes.

As perceived discrimination of gbMSM and PrEP users by healthcare professionals was associated with increased gbMSM group identification, the present findings support the RIM (Branscombe et al., 1999), which posits that perceived outgroup discrimination is associated with identification to a minority status ingroup. Moreover, the finding that gbMSM group identification positively predicted perceived personal control, which in turn negatively predicted wellbeing supports findings highlighting perceived personal control as a mediator of the relationship between group identification and wellbeing (Greenaway, Haslam, et al., 2015), and indicates that perceived personal control may act as a buffer against negative gbMSM wellbeing in the context of perceived discrimination. Therefore, although gbMSM may often be referred to as a stigmatised group, this thesis's findings suggest that gbMSM group identification may promote Social Cure processes when gbMSM individuals are faced with perceived discrimination (i.e., gbMSM group identification is associated with increased access to psychological resources such as perceived personal control, which in turn predicts reduced negative consequences of the aforementioned stigma and discrimination). This suggests that stigma underpinning gbMSM group membership and PrEP use may be effectively understood through a SIAH lens, which enables exploration of how gbMSM group identification may be beneficial to wellbeing (addressing thesis objective 3).

### ***9.6.3: GbMSM Ingroup Education***

This thesis's findings indicate that improving education of PrEP is likely a complex matter. First, Study 1's results indicate that gbMSM perceived that outgroup education of PrEP was necessary, and that improving external perceptions of PrEP could lead to greater acceptance, helping to remove the stigma associated with PrEP. This supports previous research that discussed how PrEP may be a symbol of hope in eradicating HIV but is also associated with increased risk-taking (Jaspal et al., 2018). However, Study 1 also evidenced that participants were often aware of sexual risks yet opted to ignore this in favour of sexual risk-taking behaviours. As a novel medical tool, many PrEP promotion campaigns have focussed on improving education in groups likely to use PrEP such as gbMSM (Abubakari et al., 2021). However, it can be argued that gbMSM may

already be aware of the benefits of PrEP and may choose to act in ways that are incongruent with their awareness. This suggests that education alone is likely insufficient to modify gbMSM behaviour. However, although Study 1's findings could suggest gbMSM to play a problematic role in PrEP education, Study 2's results indicated that education about PrEP mediates the relationship between gbMSM identification and attitudes to PrEP. As gbMSM identification was associated with increased education about PrEP, which in turn was associated with better attitudes to PrEP, it could be suggested that gbMSM identification helped to facilitate better attitudes to PrEP due to providing education about PrEP. Indeed, peer education is an effective successful tool for educating gbMSM about HIV (Boone & Lefkowitz, 2004; He et al., 2020; Latkin et al., 2003). The present research supports and builds upon this research to suggest that encouraging gbMSM identification may be a useful tool for improving attitudes to PrEP.

#### **9.6.4: Non-gbMSM PrEP Use**

Although this thesis's findings focus on gbMSM, it is important to remember that PrEP is now available to all who wish to take it, and PrEP usage has been reported in heterosexual populations (e.g., Bazzi et al., 2017). However, administering PrEP in non-gbMSM populations has created complex discourses that have the potential to limit the uptake of PrEP amongst those who need it. For instance, transgender women have raised concerns that targeting them as a population who would benefit from PrEP use may increase the likelihood of them being perceived as men, due to PrEP's societal associations with gbMSM (Sevelius et al., 2016). Moreover, it is possible that cultural norms underpinning gender may influence PrEP uptake. For example, In South Africa, it is considered normative for heterosexual men to take PrEP, but it is forbidden for women to take PrEP in case it encourages promiscuity (Hannaford et al., 2020). As this thesis has emphasised the perception of PrEP as a gbMSM-orientated drug, it is thus also necessary to indicate that PrEP may have other identity-based implications, with cultural norms also impacting the social acceptability of PrEP in other populations.

## **9.7: Theoretical Contributions and Implications of The Present Research**

Due to the present research offering novel theoretical contributions to SIAH research (i.e., the application of SIAH to the novel context of gbMSM attitudes to PrEP), it is important to consider the theoretical implications of this thesis's contributions.

### ***9.7.1: GbMSM Identification and Wellbeing***

This thesis has highlighted that, although it is a stigmatised identity, gbMSM identification may be associated with positive health/wellbeing outcomes. Study 1 highlighted that gbMSM often perceive each other as members of a community; an observation further examined in Study 2 by showing how gbMSM identification is associated with wellbeing, and how this may be mediated by social support and perceived personal control (i.e., well-established Social Cure mediators; e.g., Greenaway et al., 2015; Haslam et al., 2016; Haslam et al., 2005). Although previous research did not explore the experiences of members of sexual minority groups, the present research findings suggest that fostering a sense of community and identification is also beneficial for such groups, particularly gbMSM. Indeed, even though gbMSM is a minority sexuality group that is often stigmatised, the present research indicates that identification with the gbMSM group is associated with increased social resources such as perceived personal control, which in turn buffers the well-established negative relationship between perceived discrimination and ill-health/poor wellbeing. This finding furthers SIAH research by evidencing the existence of an interplay between Social Cure and Social Curse processes, indicating that the relationship between group identification and wellbeing may be complex (e.g., Bowe et al., 2019; Jetten et al., 2017; Kellezi et al., 2019). For instance, although gbMSM may perceive themselves as experiencing discrimination from healthcare professionals, it is also possible that perceived discrimination of gbMSM and PrEP users may increase gbMSM identification, enabling gbMSM to access social resources to buffer against negative wellbeing outcomes.

### ***9.7.2: Social Creativity***



The present research offered insight into how gbMSM may use social creativity to improve their status as minority group members. Although social creativity is usually defined as a group choosing a favourable dimension upon which to compare itself with an outgroup (Tajfel & Turner, 1979) social creativity could also feasibly involve groups reframing a negative trait with which they are associated to that is appears more positive. Participants in Study 1 often opted for labels such as 'sex positive' when engaging in high-risk behaviour, which could be seen as a form of impression management. As sex positivity is associated with both liberal attitudes to sex and a sense of responsibility (e.g., Fahs, 2014), it is possible that sex positivity would be perceived more favourably than the high-risk behaviour gbMSM reported. Moreover, shifting perceptions of gbMSM so they are seen as sex positive could be perceived as a way to avoid stereotypical associations of promiscuity documented throughout this thesis, which may lead to gbMSM being perceived more positively due to reduced associations between gbMSM and promiscuity. The present findings are consistent with previous social identity research that has highlighted how social creativity can help low-status groups remain a positive social identity (Jackson et al., 1996).

Although social creativity may enhance social perceptions of gbMSM, it could be perceived as a Social Curse, because gbMSM may continue to engage in high-risk behaviour under a more socially acceptable guise of 'sex positivity'. This has implications for gbMSM, as social creativity may detract from the consequences of sexual risk-taking, such as exposure to STI's. Moreover, previous research has suggested that that social creativity may act as a barrier to collective action (Becker, 2012). This is particularly relevant to gbMSM as personal mobility would be anticipated to be very difficult (i.e., gbMSM cannot change their sexuality), and social creativity may have negative consequences for gbMSM health. If social creativity was a barrier to collective action in gbMSM, this would mean that gbMSM could lack strategies to improve their status as a minority group. Thus, although social creativity could improve perspectives of gbMSM, it is also important to acknowledge that social creativity could lead to poorer gbMSM health outcomes.

### ***9.7.3: Implications for SIAH and Stigmatised Identities***

Due to the culturally embedded and longstanding nature of the societal associations between gbMSM and HIV, it may not be possible to detach gbMSM from stigmatised associations with HIV. However, this thesis suggests that encouraging gbMSM to identify with their gbMSM group identity may minimise the impact of discrimination and stigma, particularly in contexts such as healthcare settings, where intergroup relationships are historically challenging, but where engagement is necessary in order for gbMSM to access PrEP. Therefore, this thesis's research highlights the suitability of the SIAH perspective as a lens through which to explore gbMSM attitudes to PrEP, as it indicates that gbMSM identification may be beneficial for wellbeing, in addition to highlighting potential interplay between Social Cure and Social Curse processes for a stigmatised group such as this.

Although this thesis has focussed on gbMSM and attitudes to PrEP, it also considered the broader socio-political underpinnings of the stigma experienced by minority groups, enabling a deeper understanding of other issues impacting groups such as gbMSM. Indeed, during the time of writing this thesis, two disease outbreaks (Mpox and COVID-19) have become associated with stigmatised and/or minority populations. As with HIV, Mpox can be transmitted to anybody, but has almost exclusively been associated with gbMSM due to it commonly being transmitted through anal sex (Bragazzi et al. 2022). Moreover, associations between gbMSM and Mpox have been heavily stigmatised, leading to concerns of a potential replication of the societal dynamics observed during the HIV/AIDS Crisis (Bergman et al., 2022; Gonsalves et al., 2022). Furthermore, stigmatisation of East Asian people has been observed during the COVID-19 outbreak due to beliefs that the virus originated in China (Cheah et al., 2020), highlighting that stigmatised associations between identity and disease are not exclusive to sexual minority groups.

Therefore, due to the commonalities between the aforementioned infectious diseases and populations perceived as minority groups, the theoretical implications of this thesis are broader than the context of PrEP. The findings presented in this thesis thus contribute to a clearer understanding of how stigmatised groups (e.g., gbMSM) are often associated with stigmatised

diseases/viruses (e.g., HIV). As stigma of viruses have been observed to become associated with minority groups, this thesis provides initial support for adopting group-based approaches when exploring attitudes to infectious diseases (particularly when the disease is associated with a minority or stigmatised group). This would suggest that a SIAH approach may be beneficial when exploring the practical implications of infectious disease and stigmatised identity, and this idea will be expanded upon later.

## **9.8: Limitations of The Present Research and Future Research Recommendations**

### ***9.8.1: Methodological Limitations and Sample Size***

The novel application of the SIAH to gbMSM attitudes to PrEP (i.e., a key strength of this thesis) also contributes to methodological limitations of this thesis. Due to few studies adopting a social identity approach to PrEP, it was necessary that initial research was exploratory to determine the appropriateness of applying the SIAH to gbMSM and PrEP. Therefore, although Study 1 provided in-depth experiences of gbMSM arguably only possible through qualitative research, no casual conclusions can be drawn from Study 1 findings due to the methodological underpinnings.

Study 1 also acted as a scoping tool to determine which variables should be conceptualised for regression analysis in Study 2. However, again, regression and mediation analyses cannot establish causation. Moreover, Study 2 also experienced longitudinal participant attrition. Although expected (e.g., Barry, 2005), the sample size of Study 2 created issues of statistical power at T2 and T3, leading to the need to use caution when interpreting results. Although Study 2b's analysis revealed many non-significant results, some were marginally significant. It is possible that sample size influenced results due to analyses lacking statistical power. It is thus difficult to draw conclusions on whether gbMSM attitudes to PrEP remain consistent or change over time. The fact that cross-sectional analyses produced many significant

results, and longitudinal analysis produced some marginally significant results suggests that future research should involve larger samples than used in the present research.

### ***9.8.2: Limitations of The SIA/SIAH***

Although it is argued that as a robust group-based approach, the SIA/SIAH has provided a much-needed insight into group-based processes underpinning gbMSM attitudes to PrEP, it is also important to reflect on the potential limitations of using the SIA/SIAH framework. The SIA has been criticised for being an overly simplified portrayal of personal and social identity (Hornsey, 2008). For example, although the SIA/SIAH has enabled an exploration of gbMSM ingroup behaviour and the intergroup hostility between gbMSM and healthcare professionals, Study 1c's results indicate that due to the importance of the cultural underpinnings of gbMSM, HIV, and PrEP, broader social phenomena may be vital to understanding gbMSM attitudes to PrEP (e.g., participants often discussed the importance of societal representation of PrEP). Therefore, it could be argued that a community psychology approach could provide useful insights into gbMSM attitudes to PrEP. Although a community psychology approach would not have provided an in-depth exploration of group-based processes, community psychology is concerned with the culture and community underpinning health outcomes (Trickett, 2009). Therefore, as this thesis has highlighted the cultural significance of gbMSM, HIV, and PrEP, it could be suggested that both group-based approaches and community psychology approaches are necessary in future research.

### ***9.8.3: Researching Infectious Disease During Novel Disease Outbreak***

**9.8.3.1: Impact of COVID-19.** Due to starting this thesis in October 2019, the proposed research plan (See Chapter 3) was significantly disrupted by the COVID-19 pandemic, which caused lockdowns and nationwide financial difficulties. In turn, resources for healthcare organisations and sexual health charities were highly limited. Study 1 data collection occurred throughout 2020 during the COVID-19 pandemic, which was going to be followed by another qualitative study focussing on healthcare professional perceptions of PrEP use. Indeed, a key

limitation of this thesis is a lack of representation from healthcare professionals. As outlined in Chapter 3, when interviewing a healthcare professional about their experiences with gbMSM (and how this may inform attitudes to PrEP), it was highlighted that sexual health services faced long-term financial difficulties which were exacerbated by the pandemic. Therefore, face-to-face support and intensive talking services were only offered to those LWHIV, as opposed to HIV negative gbMSM who were thinking about taking PrEP, or those who simply needed general sexual health advice/support.

Moreover, during the COVID-19 initial outbreak (i.e., when this thesis's research was conducted), sexual health clinics closed, with staff often being redeployed to help with COVID-19 cases. Therefore, it was anticipated that as healthcare professionals that administer PrEP were unlikely to have conversations with gbMSM beyond medical screening, it would be impossible to gain the rich data required for qualitative analysis of healthcare professionals' opinions and experiences. Furthermore, clinics closing meant that sexual health services interacted with patients online/over the telephone, thus severely limiting contact between gbMSM and healthcare professionals. As this thesis has emphasised how gbMSM often perceived stigma and discrimination (as opposed to experienced stigma and discrimination), it would be valuable to gain insight from healthcare professionals. This would provide a deeper understanding of healthcare professionals' perceptions of gbMSM as service users. However, due to the financial difficulties faced by the NHS at the time of writing this thesis, it is unclear how feasible future research exploring healthcare professionals' perceptions of gbMSM attitudes to PrEP would be.

**9.8.3.2: Impact of Mpox.** Study 2 data collection began in May 2022, which coincided with a global outbreak of Mpox. It is possible that the results of Study 2 may have been influenced by the Mpox outbreak, due to gbMSM being associated with both HIV and Mpox, and it being impossible to discern whether Mpox may have influenced gbMSM health attitudes. For example, research has indicated that many sexually active gbMSM reduced their sexual activity as a method of avoiding Mpox transmission (Delaney et al., 2022). As this suggests gbMSM were engaging in

less casual sex, perceptions of PrEP may have changed. For example, Study 1 suggested that PrEP was often associated with a sense of illusory invincibility, but the Mpox outbreak may have changed this. Moreover, it is plausible that gbMSM may not have been using PrEP as a tool to prevent against HIV transmission due to engaging in less casual sex.

#### ***9.8.4: Addressing PrEP Stigma***

Potential barriers to the uptake of PrEP changed considerably over the course of writing this thesis. Originally, it was deemed necessary to only recruit participants from the UK, due to other countries such as the USA experiencing structural (as opposed to psychological) barriers to PrEP (such as its prohibitive cost). However, the UK is now also experiencing structural barriers to PrEP access (Hildebrandt et al., 2019). This is partly attributable to the COVID-19 pandemic, as funding issues have resulted in difficulty obtaining supplies of PrEP. Therefore, it is necessary that future research considers both the structural and psychological barriers to PrEP usage, and how both aspects might impact on people's opinions of PrEP.

Although this thesis has highlighted associations between perceived discrimination of gbMSM/PrEP users by healthcare professionals and poor wellbeing, it is necessary that future research considers the nature of that discrimination. Indeed, as most stigma and discrimination experienced by participants in the present research was anticipated (as opposed to experienced), it may be helpful to explore how subtle discrimination may negatively affect gbMSM wellbeing. Subtle discrimination is often reported to impact minority sexual orientation groups (Smith & Griffiths, 2022), with sexual minority groups being suggested to experience more subtle discrimination than traditional blatant forms of discrimination (Molero et al., 2017). Furthermore, subtle discrimination is associated with poor wellbeing (Woodford et al., 2014). Future research could aim to further understand challenges to intergroup relationships (such as gbMSM and healthcare professionals) by exploring healthcare interactions in the context of subtle

discrimination. This would enable researchers to further understand the processes underpinning PrEP stigma, such that interventions may be able to explore how PrEP stigma may be reduced.

Although this thesis has presented complex relationships between gbMSM identification and education, gbMSM identification was associated with increased PrEP education, suggesting that gbMSM identification could be a helpful tool for educating gbMSM about PrEP. Additionally, outgroup stigma from healthcare professionals was often anticipated, which could be suggested to further exacerbate intergroup hostility between gbMSM and healthcare professionals. Therefore, it is recommended that future interventions aim to target both gbMSM and healthcare professionals.

Previous social identity interventions such as Groups4Health (e.g., Haslam et al., 2016), have argued that due to social isolation being associated with negative wellbeing outcomes, identity could be harnessed as a tool to reduce social isolation (and in turn, reduce negative wellbeing outcomes). As gbMSM are a minority group, it is possible that social identity interventions aimed at increasing social connectedness could be beneficial for wellbeing. Moreover, if interventions included both gbMSM and healthcare professionals, it is possible that the benefits of interventions could be twofold. For example, although interventions could foster education of PrEP and help to reduce PrEP stigma, it is also possible that such interventions could be helpful in harnessing a collective identity between gbMSM and healthcare professionals, which could lead to healthcare professionals being perceived as ingroup members or allies. Fostering a collective identity may help to lead to more positive meta-perceptions of gbMSM and PrEP users by healthcare professionals. As a result, it could be argued that gbMSM may anticipate less stigma in intergroup healthcare settings, which may help improve access to PrEP and sexual health services.

Although the present research has focussed on gbMSM attitudes to PrEP, stigmatised identities have often been tied to disease, further stigmatising these identities. Therefore, the

present research could also be argued to provide preliminary research to support wider contexts where disease leads to a stigmatised identity. This could suggest that social identity-based interventions could be helpful in multiple contexts (e.g., COVID-19 and xenophobia).

Finally, future research should aim to further explore the role of meta-perceptions of gbMSM and PrEP users by healthcare professionals. Meta-perceptions function for many reasons, and therefore it would be helpful to further understand the function of meta-perceptions in the present research. For example, although it is possible that meta-perceptions of gbMSM and PrEP users are accurate representations of healthcare professionals' beliefs (e.g., Gómez, 2002), it is also important to emphasise that gbMSM meta-perceptions may not be accurate yet were still reported to be associated with worse wellbeing outcomes. Future research may benefit from exploring meta stereotypes of gbMSM by healthcare professionals by adopting a broader perspective. Indeed, this would allow for consideration of broader factors, such as gbMSM's experiences of mattering, which so far has only been briefly considered by previous research (Matera et al., 2021). Increasing understanding of gbMSM perceived mattering may help elaborate on help-seeking transactions, thus extending the research presented in this thesis to better understand how improving intergroup interactions between gbMSM and healthcare professionals may lead to better gbMSM attitudes to PrEP.

So far, this chapter has considered the research findings and theoretical implications of this thesis. However, due to the importance of the practical implications of the present research, consideration will now be given to how the present research may be helpful in informing policy and recommendations to relevant stakeholders, such as sexual health services (addressing thesis aim 4).

## **9.9: Practical Recommendations of The Present Research**

### ***9.9.1: Practical Applications: Thesis Aim 4***



Chapter 1 highlighted how although PrEP dramatically inhibits HIV transmission, medical efforts can be hindered by social processes such as stigma (e.g., Biello et al., 2017; Brooks et al., 2019; Card et al., 2019; Jaspal & Daramilas, 2016) and therefore it is important to consider the practical recommendations of this thesis.

This addresses the thesis's final aim:

**Thesis Aim 4 (Addressed by the Recommendations, See Chapter 9):** To make practical recommendations that will enable the knowledge gained from this thesis to be applied to the real world, so as to benefit gbMSM and wider society.

Many of these recommendations are theoretically and conceptually interlinked. However, for the purposes of this chapter, they have been categorised into sections.

#### ***9.9.2: Recommendation 1: Strategically Harness GbMSM Identification To Enhance Wellbeing***

This thesis highlights that the relationship between gbMSM identification and wellbeing is likely complex. Although gbMSM identification may be associated with better wellbeing, gbMSM were also reported to uphold unhealthy group norms (e.g., sexual risk-taking) which could damage health. Sexual risk-taking has been well-established as a gbMSM cultural norm and may be explained as an embodiment of gay liberation stemming from the 1970s (Shernoff, 2013). Although the relationship between gbMSM identification and wellbeing is complex, gbMSM identification could be harnessed to enhance wellbeing. However, it is important that relevant stakeholders (e.g., healthcare professionals) are aware of how norms may influence gbMSM sexual behaviour, and the challenges surrounding modifying gbMSM group norms.

The present research supported claims of gbMSM risk-taking as normative, with participants reporting that they were aware of sexual risks yet engaged in risky behaviour regardless. Participants discussed how they may disregard awareness of risks due to substance misuse (supporting previous literature; Earnshaw et al., 2015), general disinhibition in sexual

settings, and peer pressure. Nonetheless, Study 1 also highlights that group identification is beneficial to health/wellbeing. This is supported by Study 2, where perceived healthcare professional discrimination was associated with increased gbMSM identification, which in turn was associated with increased perceived personal control, which could act as a buffer against negative wellbeing outcomes. Therefore, it may be beneficial for healthcare professionals to be aware of gbMSM norms in order to foster a supportive and understanding relationship with gbMSM.

Although public health interventions may focus on challenging unhealthy gbMSM norms, ignoring social identity processes could result in detrimental effects to gbMSM wellbeing. As seen in previous research, African Canadian dietary norms have been reported as physically unhealthy. However, these dietary norms are central to culture and identity, and therefore trying to forcefully modify behaviour may harm wellbeing (Airhihenbuwa et al., 1996; Beagan & Chapman, 2012).

Similar findings would be anticipated in relation to the present thesis. For example, although gbMSM engage in unhealthy sexual norms, they also belong to a stigmatised group, and therefore the benefits of gbMSM identification could act as a buffer against discrimination. Challenging gbMSM group norms could be difficult, however, because they may be explained as a reaction to stigmatised perceptions of gbMSM during the HIV/AIDS Crisis, leading to sexual risk-taking being perceived as synonymous with liberation (Shernoff, 2013).

It has been argued that HIV prevention strategies need to address unhealthy norms through peer education, bringing awareness to the incongruence between group norms and healthy behaviour (Selikow et al., 2009). As this thesis also observed an incongruence between gbMSM norms and sexual behaviours, it is possible that prevention strategies aimed at highlighting the differences between gbMSM awareness and gbMSM behaviour could be helpful in reducing sexual risk-taking.

Study 1 also highlighted that multiple group identifications may be beneficial to wellbeing, such as healthcare or charity identities. As multiple group identifications have been shown to buffer against negative wellbeing outcomes (Sani, 2012), encouraging gbMSM to engage with relevant stakeholders through events, (e.g., charity fun-runs) may shift their perceptions to be more health-focused. It is likely that such individuals could also act as role models to other gbMSM. For example, if relevant stakeholders were to feature gbMSM with strong health norms on their platforms, it is possible that this may encourage other gbMSM to perceive these individuals as prototypical, leading to them adopting more health-focused norms.

The present research suggests that education surrounding PrEP is likely complex. Study 1 participants often discussed being aware of their own sexual risk-taking, yet often engaging in sexual risk-taking regardless. However, participants also suggested that education and increased awareness of PrEP could be helpful. PrEP stigma was once suggested to be so extreme it could deter PrEP usage (Jaspal & Daramilas, 2016), but PrEP stigma is now far more complex. For example, Study 2's findings highlight gbMSM identification as a positive predictor of PrEP education, which in turn was associated with better attitudes to PrEP. Therefore, although gbMSM identification may help educate gbMSM about PrEP, it seems that wider (positive) representation of PrEP is needed. Moreover, as gbMSM in Study 1 often believed heterosexuals would lack awareness of PrEP, awareness and education could help normalise PrEP usage in society, leading to less stigmatised perceptions of PrEP usage.

The present research also explored how gbMSM may seek to avoid stereotype confirmation through their behaviour, which may also be applicable to group norms such as sexual risk-taking, due to associations between gbMSM and promiscuity. The present findings can be explained by previous research on stereotype threat (i.e., fear of affirming negative stereotypes). Indeed, salient negative stereotypes about race result in increased healthcare anxiety (Abdou & Fingerhut, 2014). In the present context, this suggests that gbMSM would fear confirming negative stereotypes such as sexual promiscuity in healthcare settings, which may lead to gbMSM not

seeking help due to fear of confirming negative stereotypes (e.g., Wakefield et al., 2013). This further emphasises the importance of healthcare professionals ensuring that they promote safe and judgement-free environments for gbMSM, to ensure gbMSM feel able to access sexual health services and thus have access to PrEP.

### ***9.9.3: Recommendation 2: Foster a Strong Therapeutic Alliance Between GbMSM and Healthcare Professionals***

Therapeutic alliance (i.e., fostering a good relationship and sense of rapport between patient and healthcare provider), is considered crucial to positive medical outcomes (Elvins & Green, 2008). The present research elaborates on the importance of therapeutic alliance between gbMSM and healthcare professionals. As this thesis has explored that gbMSM often anticipated stigmatised interactions, it is possible that this could limit help-seeking, which in turn could limit PrEP uptake. Therefore, it is necessary that a strong therapeutic alliance is fostered between gbMSM and healthcare professionals to reduce anticipated stigma.

Although perceptions of PrEP may have improved from those reported in early research (e.g., Calabrese et al., 2016; Jaspal & Daramilas, 2016), strong associations between gbMSM and PrEP remain. The present research highlighted an account of discrimination where a doctor suggested it would be easier if the participant slept with fewer people, implying gbMSM PrEP users are promiscuous. As a result, the participant assumed the doctor was heterosexual, and therefore would not understand gbMSM. Although the participant endured the stigmatised interaction due to the desire for PrEP outweighing the stigma experienced, it is suggested that experiences of discrimination could worsen intergroup dynamics, resulting in a poor therapeutic alliance. As a minority group who have historically experienced stigmatised associations to HIV, it is important that healthcare professionals are aware that gbMSM may anticipate stigma during healthcare visits. Although it is possible that some healthcare professionals would still show discrimination towards gbMSM, if healthcare professionals adopted a judgement-free approach to

gbMSM sexual health, it is argued that this would help improve therapeutic alliance and could be helpful in challenging gbMSM's expectations that they will experience stigma in healthcare settings.

The present research suggests that although gbMSM may experience stigma, many gbMSM anticipate stigma based upon past experiences. As gbMSM often used meta-perceptions of gbMSM and PrEP users by healthcare professionals to make sense of how they would be perceived, it is possible to argue that gbMSM perceptions may not be accurate. However, anticipating stigma and discrimination was associated with worse wellbeing outcomes, which highlights that gbMSM may not need to experience stigmatised interactions and anticipated stigma alone may be sufficient to impact gbMSM wellbeing.

If healthcare professionals were to position themselves as allies towards gbMSM then this could help foster a better therapeutic alliance between gbMSM and healthcare professionals. Although healthcare professionals have sometimes shown concern that PrEP may lead to increased risk-taking (i.e., risk-compensation), this thesis supports previous recommendations that healthcare providers should reject issues of risk-compensation to prioritise PrEP uptake. As HIV (and by extension PrEP), are often stigmatised and linked to gbMSM, it is necessary that healthcare professionals support the specific needs of gbMSM (Calabrese et al., 2017), so that rapport between gbMSM and healthcare professionals is built. If healthcare professionals positioned themselves as allies, adopted a judgement-free approach to gbMSM, and focussed on the benefits of PrEP as opposed to concerns of increased risk-taking then this could help increase therapeutic alliance between gbMSM and healthcare professionals.

#### ***9.9.4: Recommendation 3: Target Associations of PrEP as 'gbMSM Only'***

PrEP usage is now recommended to and available to all who wish to take it, not just gbMSM. Although it is important to maximise the potential of PrEP by reaching out to people across society who may benefit from it, the present research has highlighted potential barriers to

PrEP usage by non-gbMSM populations. Indeed, the present research suggested that PrEP was still largely linked to gbMSM, suggesting that PrEP use may be normative of gbMSM. Additionally, non-PrEP taking gbMSM reported that negative meta-perceptions of PrEP users by healthcare professionals were associated with worse wellbeing outcomes (i.e., even though they were not PrEP users). This would support previous claims that PrEP has become embedded into gbMSM culture (Heredia & Goldklank, 2021), and therefore it may be difficult to remove associations between gbMSM and PrEP. This can have problematic implications for non-gbMSM individuals, as highlighted by previous research showing how some transgender women fear that PrEP use may lead to them being associated with men (Sevelius et al., 2016), and South African heterosexual men deeming it culturally acceptable for men to take PrEP but not women due to men distrusting women (Hannaford et al., 2020). This suggests that when encouraging members of non-gbMSM populations to seek and use PrEP, it is necessary to be aware of how PrEP may be normative of and associated with gbMSM. As gbMSM are often stigmatised, this has implications for PrEP use, since it is a drug associated with gbMSM. Moreover, interventions aimed at attempting to encourage specific groups (e.g., transgender women and South African heterosexuals) to seek and use PrEP further supports the present research by emphasising the importance of identity and culture when administering PrEP, highlighting the importance of both researchers and public health practitioners sensitively considering cultural underpinnings that may underpin PrEP uptake.

Although there are barriers because PrEP is embedded in gbMSM culture, if PrEP use was to become more widely administered it is possible that it could help to undo some of the stigmatised associations of gbMSM, HIV and PrEP. Therefore, this thesis would recommend that relevant stakeholders need to be mindful that it is deeply embedded in gbMSM culture. However, a wider administration of PrEP would be helpful in normalising PrEP use. Non-gbMSM groups using PrEP may lead to a wider societal perception of PrEP as a healthy choice for all, rather than just for gbMSM.

#### **9.9.5: Recommendation 4: Advocate For Sexual Health Reformation**

During Study 1, gbMSM often made wider political statements about their beliefs that the UK Government are failing gbMSM. Although it is difficult to challenge legislation, it is necessary to reflect on gbMSM perspectives on how sex education reform could improve both gbMSM sexual health and attitudes to PrEP.

In the present research, gbMSM often reported that sex education for sexual minorities was inadequate, due to hetero-centric approaches to sexual health. This often led to gbMSM being unaware of the risks of HIV until adulthood. Moreover, it was highlighted that a lack of education surrounding gbMSM sex often led to a reliance on potentially unreliable forms of education, such as pornography. This supports previous research highlighting that young people (but particularly young gay men) often rely on pornography for sex education (Litsou et al., 2021). As a result, it was reported by some participants that learning about HIV is often difficult. It was suggested that including more discussion of PrEP in school sex education may be beneficial, as this would educate young people about the risks of HIV and how PrEP can prevent HIV transmission. This observation supports previous research on sexual health reform (Epps et al., 2023), which highlights that students want and need inclusive sex education to avoid feeling 'othered'. As this thesis has highlighted concerns surrounding the associations between gbMSM and PrEP, it is possible that if PrEP education took place in schools, this would provide a wider education of PrEP and HIV, potentially minimising HIV and PrEP stigma that is often associated with gbMSM.

#### ***9.9.6: Recommendation 5: Strategically Harness the Media to Benefit GbMSM***

It is well established that media sources can be harmful to sexual minority groups such as gbMSM. This was supported in the present research, whereby gbMSM expressed that negative articles in mainstream media were harmful to their wellbeing. Participants often assumed that all such articles are written by outgroup members (heterosexuals), with some arguing that heterosexuals do not care about gbMSM wellbeing. These observations are supported by previous research on meta-stereotypes which shows that ingroup members develop meta-stereotypes due

to their anticipation of negative evaluation from the outgroup (Gómez, 2002). Moreover, gbMSM reported that prejudiced views in the media led to negative emotions, such as sadness and anger. As meta-stereotypes and meta-perceptions have been associated with poor wellbeing in gbMSM (e.g., Baggaley et al., 2010; Gordijn & Boven, 2009; Hinton et al., 2019) this would further support the idea that negative representation in the media (and subsequent meta-stereotypes), may be detrimental to gbMSM wellbeing.

Although the present research highlighted the harmful nature of the media, it was also reported that gbMSM role models within the media may be helpful to members of the gbMSM community. Specifically, it was suggested that role models may be helpful in offsetting negative perceptions of gbMSM and of HIV. For example, the present research discussed how prominent gbMSM figures LWHIV such as Gareth Thomas and Jonathon Van Ness could be helpful in educating others and combatting stigma. This is supported by previous research highlighting gbMSM role models as potentially beneficial to gbMSM identity and wellbeing (Gomillion & Giuliano, 2011). However, other research has suggested that inaccessible role models, such as celebrities, may not be sufficient to protect against negative health outcomes (Bird et al., 2012). Due to the multiple ways in which gbMSM identification may be beneficial or detrimental to wellbeing, it is likely that role models as advocates for gbMSM and HIV alone would not be sufficient. However, by role models acting as ingroup representatives, it is possible that they could contribute to better perceptions of gbMSM, PLWHIV and PrEP users. Due to gbMSM figures often having widespread positions of influence (e.g., on social media platforms), it is possible that promoting online content aimed at positively representing gbMSM, PLWHIV, and PrEP users may be beneficial to reducing negative associations between gbMSM and HIV and increasing PrEP uptake.

Role models have been suggested to have powerful effects on ingroup members, particularly for minority groups such as gbMSM. For example, role models in the media have been suggested to have a beneficial impact to gay, lesbian, and bisexual identity, with role models acting



as inspiration to other sexual minority group members (Gomillion & Giuliano, 2011). As Study 1 highlighted the potential benefits of gbMSM role models, it is possible that the present research could utilise role models to improve attitudes to PrEP, in addition to providing a buffer against gbMSM discrimination.

### **9.10: Concluding Remarks**

In summary, this thesis used a sequential exploratory mixed methods design to explore gbMSM attitudes to PrEP, and how this was linked to their health/wellbeing. Although previous research had highlighted the importance of social processes underpinning attitudes to PrEP, the present research adopted an arguably much-needed SIAH framework to explore group-based processes underpinning gbMSM attitudes to PrEP.

This thesis has shown that it is difficult to untangle the associations between gbMSM and HIV. By extension, and due to PrEP being used in the prevention of HIV, PrEP has become heavily associated with gbMSM. As a result, this thesis argues it is difficult to untangle stereotypes and discrimination of gbMSM and PrEP, due to PrEP stigma's inherent attachment to the gbMSM community and gbMSM stereotypes (e.g., promiscuity). Therefore, it is possible to argue that, without consideration of gbMSM as a group, it is difficult to understand how stigma processes underpin gbMSM attitudes to PrEP, and thus how stigma could be reduced in the future.

This thesis has emphasised that wider socio-cultural components of gbMSM and HIV are necessary to consider insights into potential stigma processes underpinning gbMSM attitudes to PrEP. Although attitudes to gbMSM and PrEP have improved since the HIV/AIDS Crisis, the stigmatised associations between gbMSM and HIV remain strong (e.g., Tan et al., 2020). Therefore, although public health interventions are currently aiming to widen PrEP uptake by members of non-gbMSM populations (Grenfell et al., 2022), the stigmatised associations between gbMSM and PrEP alongside the normative nature of PrEP among gbMSM may present challenges

in PrEP being accepted by other populations. This indicates that to improve perceptions of PrEP in wider contexts, it may be helpful to improve perceptions of gbMSM.

A central contribution of this thesis is the novel application of a SIAH lens to gbMSM attitudes to PrEP. The present research further expands on research aimed at exploring the interplay between Social Cure and Social Curse processes (Bowe et al., 2019; Jay et al., 2021; Kéllezi et al., 2019; Muldoon et al., 2019; Stevenson et al., 2022). Although gbMSM identification may be associated with perceived education about PrEP, and in turn associated with better attitudes to PrEP, gbMSM were also observed to have unhealthy sexual norms, whereby sexual risk taking was deemed normative. Additionally, although perceived discrimination of gbMSM and PrEP users by healthcare professionals was associated with negative wellbeing outcomes, it is possible that gbMSM identification may result in increased access to health-promoting psychological resources such as perceived personal control, a known mediator of the relationship between group identification and health/wellbeing (Greenaway, Haslam, et al., 2015). Therefore, gbMSM are an ideal population within which to explore the interplay of Social Cure and Social Curse processes. Moreover, it is possible that due to infectious disease being associated with stigmatised and/or minority populations, the present findings could support wider implementation of the SIAH to study associations between other infectious diseases and minority groups (e.g., Logie, 2022). Although the present research has highlighted the suitability of a SIAH approach, the continued stigmatisation of gbMSM and PrEP would suggest that further SIAH research is required. This would enable the study of additional mediators and moderators of potential Social Cure processes such as collective efficacy (e.g., Muldoon et al., 2017) which could then be encouraged in order to help protect gbMSM against negative wellbeing outcomes.

As discussed throughout this thesis, previous research on HIV and PrEP stigma often indicates that stigma is present but fails to provide an in-depth exploration of how stigma may underpin HIV and PrEP. By adopting a SIAH approach, it is possible to argue that exploring meta-perceptions of gbMSM and PrEP users by healthcare professionals is important in order to

understand the stigmatised intergroup transactions between gbMSM and healthcare professionals. Although attitudes towards gbMSM and HIV are comparably better in present times, it is possible that historical perceptions may still impact on modern day help-seeking transactions between gbMSM and healthcare professionals (e.g., by gbMSM assuming that healthcare professionals judge them and are likely to treat them poorly). Although some perceptions of stigma were reported in the present studies, most stigma of gbMSM, HIV, and PrEP was anticipated, with negative meta-perceptions of gbMSM and PrEP users by healthcare professionals being associated with poorer wellbeing outcomes. Therefore, although negative meta-perceptions may not reflect actual healthcare professional attitudes, it is possible that negative meta-perceptions of gbMSM and PrEP users by healthcare professionals could be detrimental to wellbeing. It is therefore important that researchers and clinicians are aware that gbMSM may anticipate healthcare professionals to view gbMSM/PrEP users negatively. This will ensure that gbMSM still feel able to access sexual health clinics. If gbMSM perceive healthcare professionals will perceive gbMSM and PrEP users negatively, this may lead to worse wellbeing outcomes. It is necessary that healthcare professionals aim to build a collective identity with gbMSM, such that clinics are perceived as a safe space for gbMSM.

As HIV cannot be cured, it is paramount that efforts focus on HIV prevention. However, the sociopsychological processes underpinning gbMSM, HIV, and PrEP are complex and must be considered when attempting to address HIV prevention. Although gbMSM sexual risk-taking norms may be perceived as unhealthy, it is argued that sexual risk-taking may be embedded into gbMSM identity and be perceived as a sign of liberation and freedom due to gbMSM treatment during the HIV/AIDS Crisis. Therefore, although addressing gbMSM norms is undoubtedly important, it is also challenging. The stigmatised associations between gbMSM, HIV, and PrEP remain strong, which could be suggested to undermine PrEP efficacy, and therefore could potentially reduce the efficacy of PrEP as a medical tool. Due to PrEP being prescribed in clinics, it is paramount that positive intergroup relationships between gbMSM and healthcare professionals

are fostered, enabling gbMSM to feel able to access clinics without the fear of judgement or stigma. Although gbMSM and healthcare professionals have historically experienced hostile relationships, harnessing a collective identity between gbMSM and healthcare professionals is an important step in eradicating HIV.

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## Appendix A: Study 1 Interview Schedule

### Demographics:

- Age
- Sexuality
- Ethnicity
- Relationship status
  
- Do you feel there is a sense of community between LGBTQ+ individuals?
  - If so, why?
  - Do you feel involved in this community? Why/why not?
- In what ways do you engage in this community?
  - Friends
  - Social media
  - Dating apps/hook-up apps? (e.g. Grindr, Scruff, Tinder etc.).
- Have you had any negative experiences as a result of being part of the LGBTQ+ community?
- Have you experienced any positive aspects of being part of the LGBTQ+ community?
- Do you think that LGBTQ+ people are aware of specific health risks within the community? If so, to what extent?
  - How do you think the community view HIV?
  - What are your experiences of people outside of the LGBTQ+ community understanding health risks associated with the LGBTQ+ community, such as HIV?
- Do you have any experiences of sharing your health status (such as HIV status) with other people?
  - How have you found this? Is it easy/difficult?
  - How does this vary between LGBTQ+/non-LGBTQ+ community members?
- How comfortable do/would you feel discussing your sexual health with a medical professional/specialist (e.g., sexual health clinic worker)?
  - Why do you think this is?
- How accessible do you think sexual health clinics/ services are for gay/bi/msm men?
- How familiar are you with the drug PrEP?
  - Have you ever taken it?
  - Would you ever take PrEP? Why/why not?
- Do you know anybody who has/is taking PrEP?
  - How would/do you feel about this? How would/do others feel about it?
- Have you had conversations with other people about PrEP?
  - If so who? What was it like?
  - If you have not, do you think there is a reason for this?
  - How do you think other people view PrEP? Is it similar or different to your views? Why do you think this is?
  - Do you think it is difficult to talk about HIV status and prevention methods such as PrEP? Why/why not?
- Do you think that there is a sense of fear associated with PrEP usage?
  - Why do you think this is?
  - Does this come from the user or others?
- If you saw somebody on a dating/hook-up site (e.g., Grindr) who mentioned that they were using PrEP, what would you think about them?

- Would you be more or less likely to interact with them? Why?
- Do you think other gay/bi/MSM men would likely behave similarly or differently to you?
- Do you think it is common for people to disclose their PrEP use like this? Why/why not?
- In the UK, PrEP is now being rolled out.
  - What are your thoughts on this?
  - Even with the drug becoming more accessible, do you think there are still any barriers in place which might prevent people from using it? Why/why not?
- PrEP usage has sometimes been reported to carry stigma. What are your thoughts on this?
  - Do you think this stigma comes from within or outside of the LGBTQ+ community, or is it a combination of both?
  - Do you think enough is being done to promote positive attitudes to preventative measures to HIV? Why/why not?
  - If not, who do you think is most appropriate to endorse PrEP and why?
- Media sources have associated PrEP with heightened promiscuity in gay men, with the Huffington Post referring to PrEP users as “Truvada Whores” (Truvada being PrEP’s brand name). How does this make you feel as a (gay/bi/MSM man?)
  - Do you think other members of the LGBTQ+ community would perceive this similarly or different to yourself? Why/why not?
  - Why do you think that the media has created this image of PrEP use?
- How do you think PrEP is viewed outside of the LGBTQ+ community?
  - If they don’t know about it- why is this?
  - If they view it positively- what can we learn from this?
  - If they view it negatively- why is this?
- Do you think that there is a general consensus in the LGBTQ+ community on PrEP usage?
  - If not, why?
  - Are some more likely to have more positive attitudes than others?
  - What factors might influence people’s perceptions of PrEP?
- If there were more positive attitudes to PrEP presented by people with influence, such as celebrities or public speakers, would this influence your own opinion or PrEP use? Why/why not?
  - Do you think it is important that PrEP use is promoted by members of the LGBTQ+ community? If so Why/If not, why not?
- Is there anything you think would be helpful in reducing PrEP stigma?
  - Why do you think this might work?
  - What might be the challenges?
- Do you have anything else that you would like to discuss or add?
- Thank and debrief.

## **Appendix B: Study 1 Participant Information Sheet, Consent Form, and Debrief**

### **Participant Information Sheet: A Study of Attitudes Towards PrEP**

#### **What is the purpose of the study?**

I am a PhD. student at Nottingham Trent University. I am exploring attitudes held by men who have sex with men (MSM) towards Pre-Exposure Prophylaxis (PrEP) medication. You are invited to take part in an interview where you will be asked to talk about your thoughts and feelings regarding these issues. As a sign of gratitude for your participation, you shall be compensated with a £10 Amazon voucher (upon reopening of the University due to COVID-19 lockdown).

#### **What do I need to do?**

Read through the following information carefully and ask me any questions before the interview. The interview will last around one hour. The interview will be audio-recorded to ensure what you tell me is accurately documented.

#### **Do I have to take part?**

Participation is entirely voluntary and any information that you provide will be treated confidentially. Choosing to participate or to not participate in this study will have no effect on the healthcare you receive.

#### **What will happen to the information I provide in this study?**

The recording of the interview will be transcribed (a written record of what is said) and analysed. Extracts from the interview may be used in academic publications/reports, so there is a minimal risk that you could be identified. However, your details and opinions (and any other identifying characteristics) will be anonymised in any publications. You will be referred to by a pseudonym (fake name) in any publications. The audio recording of the interview will be stored electronically in a password-protected format to which only my supervisors and I will have access. The audio-recording will be destroyed in a secure manner after ten years.

Please note that you will not be explicitly asked any questions that would encourage you to reveal information about illegal activities or evidence of serious risk/harm. However, if you happen to volunteer such information during the course of the discussion, it will be reported to the relevant authorities.

#### **If I take part, can I withdraw later on?**

You are free to withdraw yourself and your data from the study at any point during the interview without explanation, and there will be no consequences of this for you. You can also withdraw your data up to two weeks after the interview by contacting me (details below). Please keep this form safe and make a note of the date you participated in the study. This will allow for you to contact me on the details below to withdraw (if you wish) up to two weeks from the date of your interview.

If you have any questions, please ask me before the interview begins or contact me/my Director of Studies:

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Note: Please retain this participation information sheet for at least two weeks prior to the end of your interview

### Study 1 Informed Consent Form

1. I agree to participate in this research.
2. I agree for the interview to be recorded with audio recording equipment.
3. This agreement is of my own free will.
4. I have had the opportunity to ask any questions about the study.
5. I realise that I may withdraw from the study during the interview or up to two weeks afterwards without giving a reason.
6. I have been given information with the researcher's name and a contact number and address if I require further information or decide to withdraw my data at a later point. It has also been explained that participant payment does not negate my right to withdraw.
7. All personal information provided by myself will remain confidential and no information that identifies me will be made publicly available.
8. I agree for part of the interview to be reproduced in academic publications (although my real name will not be revealed).

\_\_\_\_\_ (Signature)

\_\_\_\_\_ (Date)

**Debrief**

Thank you for your participation. Your interview participation has allowed us to explore the group processes underpinning attitudes to PrEP usage. In addition to providing insight into PrEP usage, this will also enable us to examine how social processes such as group identification underlie health related topics.

If you would like more information about this study, please email myself (daniel.griffiths2018@my.ntu.ac.uk). Please also email him if you decide at any point in the next two weeks that you would like to withdraw from this study. If you opt to withdraw, your data shall be deleted.

If participating in this interview has upset you in any way, please contact one of these organisations for support:

- Mind: tel: 0300 123 3393, or text 86463, or visit [mind.org.uk](http://mind.org.uk)
- The Terrance Higgins Trust: tel: 0808 802 1221, or visit [tht.org.uk](http://tht.org.uk)

Many thanks again for your participation.

## Appendix C: Study 2 Participant Information Sheet and Consent Form

### What is the purpose of the study?

I am a PhD. student at Nottingham Trent University. I am exploring attitudes held by men who have sex with men (MSM) towards Pre-Exposure Prophylaxis (PrEP) medication. We are looking at how group identification relates to attitudes towards PrEP usage. The survey will involve a series of questions regarding PrEP, the MSM/LGBTQ+ community, and questions regarding your health/wellbeing.

I am interested in how your views may change (or stay consistent) over time, and therefore I will ask you to complete the survey again in three months' time, and once more three months after that. You will receive a payment for each survey you complete, but you can complete as many or as few of the surveys as you wish.

### What do I need to do?

You are being asked to complete a short survey, lasting approximately 15 minutes. This will include questions surrounding group identification, health and wellbeing, and attitudes to PrEP. These questions shall be completed in a single session. If you do not want to answer a question, simply skip it. You will also be able to exit the survey at any point if you no longer wish to participate by simply closing the study window. You can also withdraw your data up to two weeks after your participation by contacting me (details below), and stating your unique identification code you will create during the survey. However, please be aware that this may result in a loss of anonymity (e.g. if your email address includes personal data such as your name). Please make a record of the date in which you completed this survey and retain the details of both my (Daniel Griffiths) and my Director of Studies (Dr. Juliet Wakefield) email addresses.

### Confidentiality

Participants shall remain anonymous in the study (you will not be asked to provide your name), with data being kept on a password protected computer. All data shall be destroyed after 10 years.

If you have any questions, please ask me contact me (Principal Investigator) or my Director of Studies via these details:

#### Daniel Griffiths

Dept. of Psychology, Nottingham Trent University, 50 Shakespeare Street, Nottingham, NG1 4FQ.  
E-mail: [daniel.griffiths2018@my.ntu.ac.uk](mailto:daniel.griffiths2018@my.ntu.ac.uk)

#### Dr. Juliet Wakefield (Director of Studies)

Dept. of Psychology, Nottingham Trent University, 50 Shakespeare Street, Nottingham, NG1 4FQ.  
Tel: 0115 8485518  
E-mail: [juliet.wakefield@ntu.ac.uk](mailto:juliet.wakefield@ntu.ac.uk)

Many thanks for your co-operation.

### The study is now complete- thank you for your participation!

Your Prolific completion code is:



Note, if you click on the continue button below, you will be automatically redirected to Prolific.ac and your survey completion will be registered.

Your participation in this survey has allowed us to gain insight into the group processes underpinning attitudes to PrEP usage. In addition to providing insight into PrEP usage, this survey is also aiming to examine how social processes such as group identification underlie health related topics.

If you would like more information about this study, please email myself (daniel.griffiths2018@my.ntu.ac.uk). Please also email him if you decide at any point in the next two weeks that you would like to withdraw from this study (your data will then be removed from the data-file).

Although no questions were designed to impact on your wellbeing, if any part of this survey has impacted you please contact:

- **Mind:** tel: 0300 123 3393, or text 86463, or visit [mind.org.uk](http://mind.org.uk)
- **The Terrance Higgins Trust:** tel: 0808 802 1221, or visit [tht.org.uk](http://tht.org.uk)

Many thanks again for your participation. Please click on the arrow at the bottom right of the screen to end the survey only if you are happy for your data from the survey to be used in the study.

## Appendix D: Study 2 Variables Not Included in Analysis

*Men's help seeking* was measured using the Measurement of Men's Help Seeking: Barriers to Help Seeking Scale (BHSS; Mansfield et al., 2005). Participants were only asked to complete the Need for Control and Self-Reliance sub-scale items (e.g., "I would think less of myself for needing help"). This sub-scale was observed as appropriate for creating a measure of control and self-reliance with an application to help seeking. Other factors of the BHSS were disregarded due to a lack of relevance to the sample (e.g., physical barriers such as health insurance were not present in a UK sample). This sub-scale comprised of ten items which were averaged to give an overall measurement for *Need for control and self-reliance with an application to men's help seeking*, (T1 Cronbach's  $\alpha = .82$ , T2 Cronbach's  $\alpha = .84$ , T3 Cronbach's  $\alpha = .88$ ).

*Meta-perceptions of heterosexuals towards the participants' sexual orientation group* were measured with a single item ("How do you think your sexual orientation group is perceived by heterosexuals?"). Additionally, *meta-perceptions of health professionals towards the participants' sexual orientation group* were measured with a single item ("How do you think your sexual orientation group is perceived by health professionals?"). These items were inspired by measures and vignettes developed for use in other studies (e.g., Fowler & Gasiorek, 2020). Participants were required to assign a rating for each group, with scores ranging from 0 ("not at all favourably") to 100 ("extremely favourably"), with higher scores indicating participants felt they were perceived more favourably by heterosexuals/health professionals.

For participants who were using PrEP, *meta-perceptions of heterosexuals towards the participants' PrEP user group* were measured in the same manner, as was *meta-perceptions of health professionals towards the participants' PrEP user group* and *meta-perceptions of non-PrEP users in the participant's sexual orientation group towards the participants' PrEP user group*.

For participants who used PrEP in the past but do not use it currently, *meta-perceptions of heterosexuals towards the participants' PrEP user group when they were taking PrEP* was

measured in the same manner, as was *meta-perceptions of health professionals towards the participants' PrEP user group when they were taking PrEP* and *meta-perceptions of non-PrEP users in the participant's sexual orientation group towards the participants' PrEP user group when they were taking PrEP*.

Participants who use PrEP were additionally asked about *perceived PrEP-specific discrimination from heterosexuals* ("As a non-heterosexual person who uses PrEP, I am discriminated against by straight people"), *from health professionals* ("As a non-heterosexual person who uses PrEP, I am discriminated against by health professionals"), and *from non-PrEP users in their sexual orientation group* ("As a non-heterosexual person who uses PrEP, I am discriminated against by non-PrEP users in my sexual orientation group").

Participants who used to use PrEP but do not do so currently were additionally asked about *previous perceived PrEP-specific discrimination from heterosexuals* ("As a non-heterosexual person who used PrEP, I was discriminated against by straight people"), *from health professionals* ("As a non-heterosexual person who used PrEP, I was discriminated against by health professionals"), and *from non-PrEP users in their sexual orientation group* ("As a non-heterosexual person who used PrEP, I was discriminated against by non-PrEP users in my sexual orientation group").

*Self-rated health* was measured with a single item subjective health measure (Idler et al., 1990) that asked participants: "How would you rate your health at the present time?". Participants were asked to rate their health from 1 ("Bad") to 5 ("Excellent").

*PrEP user group social support* (for participants who currently took PrEP) was measured by asking the PrEP-using participants to complete the four-item Social Support Scale (van Dick et al., 2012) again, but with their PrEP user social group in mind (e.g., "Do you get the emotional support you need from other people in your PrEP user group?"), (T1 Cronbach's  $\alpha = .999$ , T2 Cronbach's  $\alpha = .96$ , T3 Cronbach's  $\alpha = .98$ ).

## Appendix E: Additional Questions for PrEP/Ex-PrEP users

How do you think your PrEP-user group is perceived by...? Non-PrEP users in your sexual orientation group, Heterosexuals, Healthcare professionals

0 (Not at all favourably) -100 (Extremely favourably)

When you took PrEP, how do you think your PrEP-user group was perceived by...? Non-PrEP users in your sexual orientation group, Heterosexuals, Healthcare professionals

0 (Not at all favourably) -100 (Extremely favourably)

Please answer the following questions on how you feel you are perceived as a PrEP user: (Strongly disagree – Strongly agree)

As a non-heterosexual person who uses PrEP, I am discriminated against by healthcare professionals

As a non-heterosexual person who uses PrEP, I am discriminated against by straight people

As a non-heterosexual person who uses PrEP, I am discriminated against by non-PrEP users in my sexual orientation group

Please answer the following questions on how you feel you were perceived when you used PrEP: (Strongly disagree – strongly agree)

As a non-heterosexual person who used PrEP, I was discriminated against by healthcare professionals

As non-heterosexual person who used PrEP, I was discriminated against by straight people

As a non-heterosexual person who used PrEP, I was discriminated against by non-PrEP users in my sexual orientation group

**Appendix F: Study 2: Demographic statistics for the three survey waves after excluding partial respondents.**

Wave	N	Days since last wave	$M_{age}$	$SD_{age}$	Age range	Sexuality	Ethnicity	PrEP Status
T1	203	N.A.	34.15	12.04	18-74	Gay/homosexual ( $n=99$ , 48.77%), bisexual ( $n= 82$ , 40.39%), pansexual ( $n=10$ , 4.93%), MSM= ( $n=8$ , 3.94%), other ( $n=3$ , 1.48%)	White British/English/Scottish/Northern Irish ( $n= 160$ , 78.82%), White Irish ( $n=1$ , 0.49%), White Other ( $n=16$ , 7.88%) Asian/Asian British ( $n= 16$ , 7.88%), Black/African/Caribbean/Black-British ( $n=2$ , 0.98%) Mixed/Multiple ethnic background ( $n=4$ , 1.97%) and Other ( $n=3$ , 1.48%).	Never used PrEP, ( $n=176$ , 86.70%), previously used PrEP ( $n = 14$ , 6.90%), currently taking PrEP ( $n = 10$ , 4.93%), about to start PrEP ( $n = 1$ , 0.49%), knows someone on PrEP ( $n = 1$ , 0.49%)
T2	160	92	35.21	12.00	18-75	Gay/homosexual ( $n=80$ , 50.00%), bisexual ( $n= 67$ , 41.88%), pansexual ( $n=7$ , 4.38%), MSM= ( $n=4$ , 2.50%), other ( $n=2$ , 1.25%)	White British/English/Scottish/Northern Irish ( $n= 130$ , 81.25%), White Irish ( $n=1$ , 0.63%), White Other ( $n=13$ , 8.13%) Asian/Asian British ( $n= 10$ , 4.38%), Black/African/Caribbean/Black-British ( $n=1$ , 0.63%) Mixed/Multiple ethnic background ( $n=3$ , 1.88%) and Other ( $n=2$ , 1.25%).	Never used PrEP, ( $n= 138$ , 86.25%), previously used PrEP ( $n= 12$ , 7.50%), currently taking PrEP ( $n = 8$ , 5.00%), other ( $n= 2$ , 1.25%)
T3	128	92	36.19	11.93	18-75	Gay/homosexual ( $n=66$ , 51.56%), bisexual ( $n= 52$ , 32,50%), pansexual ( $n= 7$ , 4.38%), MSM= ( $n= 1$ , 0.63%), other ( $n= 2$ , 1.25%)	White British/English/Scottish/Northern Irish ( $n= 103$ , 80.47%), White Other ( $n= 8$ , 5.00%) Asian/Asian British ( $n= 10$ , 6.25%), Mixed/Multiple ethnic background ( $n= 1$ , 0.78%) and Other ( $n= 1$ , 0.78%).	Never used PrEP, ( $n= 111$ , 86.72%), previously used PrEP ( $n= 9$ , 5.63%), currently taking PrEP ( $n = 7$ , 5.47%), other ( $n= 2$ , 1.56%)

## Appendix G Summary of Study 2 T2-T3 results

**Table 1**

*Summary of Study 2b T2-T3 mediation analysis*

Model	Perceived PrEP Education (T2)		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
T2 gbMSM Identification → T3 Attitudes to PrEP			
Direct Effect	-.81	-1.96	.35
Total Effect	-.70	-1.86	.46
Indirect Effect (T2 Perceived Education of PrEP)	.11	-.07	.32

**Table 2**

*Summary of Study 2b T2-T3 mediation analysis*

Model	Perceived PrEP Education (T3)		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
T2 gbMSM Identification → T3 Attitudes to PrEP			
Direct Effect	-.65	-1.79	.50
Total Effect	-.81	-1.96	.35
Indirect Effect (T3 Perceived Education of PrEP)	-.16	-.63	.18

**Table 3**

*Summary of Study 2b T2-T3 mediation analysis*

Model	T2 Social Support			T2 Perceived Personal Control		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
T2 gbMSM Identification → T3 Stress						
Direct Effect	.21	-.70	1.12	.29	-.51	1.10
Total Effect	.13	-.66	.92	.29	-.51	1.09
Indirect Effect (T2 Social Support)	-.08	-.61	.38	-.00	-.14	.11
T2 gbMSM Identification → T3 Loneliness						
Direct Effect	-.78	-1.71	.14	-.98	<b>-1.77</b>	<b>-.18</b>
Total Effect	-1.01	<b>-1.82</b>	<b>-.20</b>	-.96	<b>-1.75</b>	<b>-.17</b>
Indirect Effect (T2 Social Support)	-.23	-.63	.15	.02	-.10	.14
T2 gbMSM Identification → T3 Depression						
Direct Effect	-.11	-.64	.43	-.18	-.65	.29
Total Effect	-.21	-.68	.26	-.16	-.63	.30
Indirect Effect (T2 Social Support)	-.11	-.43	.19	.02	-.04	.10

T2 gbMSM Identification → T3 Anxiety						
Direct Effect	-0.20	<b>-0.79</b>	.40	-0.17	<b>-0.69</b>	.35
Total Effect	-0.24	<b>-0.76</b>	.27	-0.19	<b>-0.71</b>	.32
Indirect Effect (T2 Social Support)	-0.04	<b>-0.33</b>	.23	-0.02	<b>-0.12</b>	.07

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 4**

*Summary of Study 2b T2-T3 mediation analysis*

Model	T3 Social Support			T3 Perceived Personal Control		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
T2 gbMSM Identification → T3 Stress						
Direct Effect	.34	-0.54	1.23	.28	-0.51	1.06
Total Effect	.21	<b>-0.70</b>	1.12	.29	-0.51	1.10
Indirect Effect (T3 Mediator)	-0.13	<b>-0.57</b>	.13	.02	-0.20	.27
T2 gbMSM Identification → T3 Loneliness						
Direct Effect	-0.71	<b>-1.64</b>	.21	-0.99	<b>-1.76</b>	<b>-0.22</b>
Total Effect	-0.78	<b>-1.71</b>	.14	-0.98	<b>-1.77</b>	<b>-0.18</b>
Indirect Effect (T3 Mediator)	-0.07	-0.33	.09	.01	-0.24	.26
T2 gbMSM Identification → T3 Depression						
Direct Effect	-0.09	-0.63	.45	-0.18	-0.63	.27
Total Effect	-0.11	-0.64	.43	-0.18	-0.65	.29
Indirect Effect (T3 Mediator)	-0.02	-0.14	.06	-0.01	-0.18	.15
T2 gbMSM Identification → T3 Anxiety						
Direct Effect	-0.19	<b>-0.79</b>	.41	-0.17	<b>-0.69</b>	.35
Total Effect	-0.20	<b>-0.79</b>	.40	-0.17	<b>-0.69</b>	.35
Indirect Effect (T3 Mediator)	-0.01	-0.10	.09	-0.00	-0.10	.08

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 5**

*Summary of Study 2b T2-T3 mediation analysis*

Model	T2 Stigma Consciousness → T2 Loneliness		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
T2 meta-perceptions of gbMSM by healthcare professionals → T3 Stress			
Direct Effect	-0.00	-0.05	.05
Total Effect	-0.00	-0.06	.05
Indirect Effect (T2 Stigma Consciousness → T2 Loneliness)	-0.00	-0.00	.00
T2 meta-perceptions of gbMSM by healthcare professionals → T3 Depression			

Direct Effect	-0.00	-0.03	.03
Total Effect	-0.00	-0.03	.03
Indirect Effect (T2 Stigma Consciousness → T2 Loneliness)	.00	-0.00	.00
T2 meta-perceptions of gbMSM by healthcare professionals → T3 Anxiety			
Direct Effect	-0.03	<b>-0.07</b>	<b>-0.00</b>
Total Effect	-0.03	<b>-0.07</b>	<b>-0.00</b>
Indirect Effect (T2 Stigma Consciousness → T2 Loneliness)	-0.00	-0.00	.00
T2 meta-perceptions of PrEP users by healthcare professionals → T3 Stress			
Direct Effect	-0.02	-0.07	.03
Total Effect	-0.02	-0.07	.03
Indirect Effect (T2 Stigma Consciousness → T2 Loneliness)	.00	-0.00	.00
T2 meta-perceptions of PrEP users by healthcare professionals → T3 Depression			
Direct Effect	-0.00	-0.03	.03
Total Effect	-0.00	-0.03	.03
Indirect Effect (T2 Stigma Consciousness → T2 Loneliness)	.00	-0.00	.00
T2 meta-perceptions of PrEP users by healthcare professionals → T3 Anxiety			
Direct Effect	-0.03	<b>-0.07</b>	<b>-0.00</b>
Total Effect	-0.03	<b>-0.07</b>	<b>-0.00</b>
Indirect Effect (T2 Stigma Consciousness → T2 Loneliness)	-0.00	-0.00	.00

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 6**

*Summary of Study 2b T2-T3 mediation analysis*

Model	T3 Stigma Consciousness → T3 Loneliness		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
T2 meta-perceptions of gbMSM by healthcare professionals → T3 Stress			
Direct Effect	.02	-0.03	.07
Total Effect	-0.00	-0.05	.05
Indirect Effect (T3 Stigma Consciousness → T3 Loneliness)	-0.00	-0.01	.01
T2 meta-perceptions of gbMSM by healthcare professionals → T3 Depression			
Direct Effect	.01	-0.02	.04
Total Effect	-0.00	-0.03	.03
Indirect Effect (T3 Stigma Consciousness → T3 Loneliness)	.00	-0.00	.01
T2 meta-perceptions of gbMSM by healthcare professionals → T3 Anxiety			
Direct Effect	-0.03	-0.06	.01
Total Effect	-0.03	<b>-0.07</b>	<b>-0.00</b>
Indirect Effect (T3 Stigma Consciousness → T3 Loneliness)	.00	-0.00	.00



T2 meta-perceptions of PrEP users by healthcare professionals →			
T3 Stress			
Direct Effect	<b>-.01</b>	<b>-.06</b>	<b>.04</b>
Total Effect	<b>-.02</b>	<b>-.07</b>	<b>.03</b>
Indirect Effect (T3 Stigma Consciousness → T3 Loneliness)	<b>-.00</b>	<b>-.01</b>	<b>.01</b>
T2 meta-perceptions of PrEP users by healthcare professionals →			
T3 Depression			
Direct Effect	<b>.01</b>	<b>-.01</b>	<b>.04</b>
Total Effect	<b>.00</b>	<b>-.02</b>	<b>.03</b>
Indirect Effect (T3 Stigma Consciousness → T3 Loneliness)	<b>.00</b>	<b>-.00</b>	<b>.00</b>
T2 meta-perceptions of PrEP users by healthcare professionals →			
T3 Anxiety			
Direct Effect	<b>-.01</b>	<b>-.04</b>	<b>.02</b>
Total Effect	<b>-.01</b>	<b>-.04</b>	<b>.02</b>
Indirect Effect (T3 Stigma Consciousness → T3 Loneliness)	<b>-.00</b>	<b>-.00</b>	<b>.00</b>

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 7**

*Summary of Study 2b T2-T3 mediation analysis*

Model	T2 gbMSM Identification → T2 Perceived Personal Control		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T2 Perceived Healthcare Discrimination of gbMSM → T3 Stress</b>			
Direct Effect	.13	-.66	.92
Total Effect	.10	-.67	.87
Indirect Effect (T2 gbMSM Identification → T2 Perceived Personal Control)	.00	-.01	.02
<b>T2 Perceived Healthcare Discrimination of gbMSM → T3 Loneliness</b>			
Direct Effect	-.35	-1.11	.42
Total Effect	-.33	-1.10	.43
Indirect Effect (T2 gbMSM Identification → T2 Perceived Personal Control)	-.00	-.01	.01
<b>T2 Perceived Healthcare Discrimination of gbMSM → T3 Depression</b>			
Direct Effect	-.03	-.48	.43
Total Effect	-.04	-.49	.40
Indirect Effect (T2 gbMSM Identification → T2 Perceived Personal Control)	-.00	-.01	.01
<b>T2 Perceived Healthcare Discrimination of gbMSM → T3 Anxiety</b>			
Direct Effect	-.19	-.67	.29
Total Effect	-.16	-.63	.32
Indirect Effect (T2 gbMSM Identification → T2 Perceived Personal Control)	.00	-.01	.02

**T2 Perceived Healthcare Discrimination of PrEP Users → T3 Stress**

Direct Effect	.26	-.42	.93
Total Effect	.24	-.44	.91
Indirect Effect (T2 gbMSM Identification → T2 Perceived Personal Control)	.00	-.01	.01

**T2 Perceived Healthcare Discrimination of PrEP Users → T3 Loneliness**

Direct Effect	-.03	-.72	.65
Total Effect	-.01	-.69	.68
Indirect Effect (T2 gbMSM Identification → T2 Perceived Personal Control)	-.00	-.01	.01

**T2 Perceived Healthcare Discrimination of PrEP Users → T3 Depression**

Direct Effect	.31	-.08	.70
Total Effect	.30	-.09	.69
Indirect Effect (T2 gbMSM Identification → T2 Perceived Personal Control)	-.00	-.01	.01

**T2 Perceived Healthcare Discrimination of PrEP Users → T3 Anxiety**

Direct Effect	-.12	-.56	.32
Total Effect	-.10	-.53	.34
Indirect Effect (T2 gbMSM Identification → T2 Perceived Personal Control)	.00	-.01	.01

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 8**

*Summary of Study 2b T2-T3 mediation analysis*

Model	T3 gbMSM Identification → T3 Perceived Personal Control		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T2 Perceived Healthcare Discrimination of gbMSM → T3 Stress</b>			
Direct Effect	.30	-.46	1.07
Total Effect	.13	-.65	.91
Indirect Effect (T3 gbMSM Identification → T3 Perceived Personal Control)	-.00	-.07	.04
<b>T2 Perceived Healthcare Discrimination of gbMSM → T3 Loneliness</b>			
Direct Effect	-.04	-.76	.67
Total Effect	-.35	-1.11	.42
Indirect Effect (T3 gbMSM Identification → T3 Perceived Personal Control)	.00	-.05	.04
<b>T2 Perceived Healthcare Discrimination of gbMSM → T3 Depression</b>			
Direct Effect	.12	-.32	.56
Total Effect	-.03	-.48	.43

Indirect Effect (T3 gbMSM Identification → T3 Perceived Personal Control)	-0.00	-0.05	.03
<b>T2 Perceived Healthcare Discrimination of gbMSM → T3 Anxiety</b>			
Direct Effect	-0.11	-0.60	.38
Total Effect	-0.19	-0.67	.29
Indirect Effect (T3 gbMSM Identification → T3 Perceived Personal Control)	.00	-0.02	.01
<b>T2 Perceived Healthcare Discrimination of PrEP Users → T3 Stress</b>			
Direct Effect	.40	-0.26	1.07
Total Effect	.26	-0.42	.93
Indirect Effect (T3 gbMSM Identification → T3 Perceived Personal Control)	-0.01	-0.08	.03
<b>T2 Perceived Healthcare Discrimination of PrEP Users → T3 Loneliness</b>			
Direct Effect	-0.07	-0.56	.69
Total Effect	-0.03	-0.72	.65
Indirect Effect (T3 gbMSM Identification → T3 Perceived Personal Control)	-0.01	-0.08	.03
<b>T2 Perceived Healthcare Discrimination of PrEP Users → T3 Depression</b>			
Direct Effect	.40	<b>.03</b>	<b>.78</b>
Total Effect	.31	-0.08	.70
Indirect Effect (T3 gbMSM Identification → T3 Perceived Personal Control)	-0.01	-0.06	.02
<b>T2 Perceived Healthcare Discrimination of PrEP Users → T3 Anxiety</b>			
Direct Effect	-0.09	-0.54	.36
Total Effect	-0.12	-0.56	.32
Indirect Effect (T3 gbMSM Identification → T3 Perceived Personal Control)	-0.00	-0.02	.01

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Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

## Appendix H: Study 2 T1-T3 Correlation Tables

**Table 1**

*T1-T3 Correlation Table of Key Variables for H8.1, H8.2a, and H8.2b.*

Variable	1	2	3	4	5	6	7	8	9
<b>1. GbMSM Identification T1</b> (M= 4.02 SD=1.57)	-								
<b>2. GbMSM Identification T2</b> (M= 4.03 SD=1.55)	.77***	-							
<b>3. GbMSM Identification T2</b> (M= 4.01 SD=1.57)	.73***	.76***	-						
<b>4. Attitudes to PrEP T1</b> (M=5.02, SD=0.75)	.25***	.33***	.33***	-					
<b>5. Attitudes to PrEP T2</b> (M=5.02, SD=0.75)	.30***	.29***	.27**	.82***	-				
<b>6. Attitudes to PrEP T3</b> (M=5.02, SD=0.75)	.31***	.27**	.29***	.83***	.85***	-			
<b>7. Perceived PrEP Education T1</b> (M=3.67, SD= 1.74)	.18*	.18*	.19*	.35***	.24**	.17*	-		
<b>8. Perceived PrEP Education T2</b> (M=3.67, SD= 1.74)	.10	.16*	.14	.22**	.16*	.16	.75***	-	
<b>9. Perceived PrEP Education T3</b> (M=3.67, SD= 1.74)	.20*	.10	.11	.24**	.16	.27**	.69***	.72***	-

Note: \* = p < .05, \*\* p < .01, \*\*\* p < .001

**Table 2**

*T1-T3 Correlation Table of gbMSM identification and wellbeing*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
<b>1. GbMSM Identification T1</b> (M= 4.02 SD=1.57)	-																				
<b>2. GbMSM Identification T2</b> (M= 4.03 SD=1.55)	.77***	-																			
<b>3. GbMSM Identification T2</b> (M= 4.01 SD=1.57)	.73***	.76***	-																		
<b>4. Depression T1</b> (M=5.78, SD=4.09)	-.16*	-.15	-.15	-																	
<b>5. Depression T2</b> (M=5.31, SD=3.83)	-.13	-.14	-.27**	.69***	-																
<b>6. Depression T3</b> (M=5.32, SD=4.31)	-.12	-.12	-.11	.76***	.77***	-															
<b>7. Anxiety T1</b> (M=7.44, SD=4.54)	-.05	-.04	-.11	.67***	.49***	.62***	-														
<b>8. Anxiety T2</b> (M=6.64, SD=4.34)	-.08	-.00	-.07	.53***	.63***	.61***	.76***	-													
<b>9. Anxiety T3</b> (M=6.79, SD=4.53)	-.11	-.09	-.07	.59***	.51***	.70***	.78***	.79***	-												
<b>10. Stress T1</b> (M=17.72, SD=7.13)	-.16*	-.20*	-.11	.68***	.50***	.60***	.74***	.59***	.66***	-											
<b>11. Stress T2</b> (M=16.49, SD=6.70)	-.07	-.04	-.10	.59***	.72***	.69***	.67***	.75***	.67***	.70***	-										
<b>12. Stress T3</b> (M=17.51, SD=7.21)	-.10	-.08	-.10	.61***	.63***	.74***	.69***	.66***	.75***	.76***	.79***	-									
<b>13. Loneliness T1</b> (M=22.91, SD=7.61)	-.27***	-.28***	-.19*	.59***	.49***	.58***	.52***	.43***	.50***	.65***	.59***	.61***	-								
<b>14. Loneliness T2</b> (M=21.61, SD=7.61)	-.23**	-.21**	-.21*	.46***	.62***	.56***	.42***	.55***	.51***	.53***	.68***	.58***	.74***	-							
<b>15. Loneliness T3</b> (M=22.18, SD=7.98)	-.18*	-.26**	-.25**	.54***	.64***	.69***	.48***	.53***	.57***	.56***	.71***	.70***	.74***	.84***	-						
<b>16. Social Support T1</b> (M=3.19, SD=1.49)	.69***	.62***	.56***	-.12	-.05	-.02	-.03	.01	-.05	-.17*	-.03	-.04	-.28***	-.23**	-.18*	-					
<b>17. Social Support T2</b> (M=3.10, SD=1.53)	.48***	.68***	.56***	-.13	-.13	-.15	-.05	-.00	-.11	-.14	-.02	-.06	-.26***	-.20*	-.29**	.68***	-				
<b>18. Social Support T3</b> (M=3.13, SD=1.43)	.52***	.58***	.68***	-.19*	-.20*	-.14	-.02	-.07	-.04	-.14	-.04	-.11	-.26**	-.20*	-.26**	.67***	.74***	-			
<b>19. Perceived Personal Control T1</b> (M=5.05, SD=1.25)	.21**	.19*	.14	-.58***	-.50***	-.52***	-.56***	-.48***	-.51***	-.67***	-.57***	-.62***	-.56***	-.51***	-.59***	.22**	.19*	.21*	-		
<b>20. Perceived Personal Control T2</b> (M=5.05, SD=1.16)	.12	.16*	.25**	-.54***	-.63***	-.50***	-.44***	-.53***	-.48***	-.54***	-.62***	-.55***	-.51***	-.64***	-.60***	.11	.19*	.28**	.71***	-	

21. Perceived Personal Control T3 (M=5.13, SD=1.21) .15 .17 .10 - .63\*\*\* -.66\*\*\* -.68\*\*\* -.58\*\*\* -.58\*\*\* -.56\*\*\* -.67\*\*\* -.74\*\*\* -.72\*\*\* -.60\*\*\* -.62\*\*\* -.67\*\*\* .14 .19\* .13 .72\*\*\* .74\*\*\* -

Note: \* = p < .05, \*\* p < .01, \*\*\* p < .001

**Table 3**

*T1-T3 Correlation Table of meta-perceptions of gbMSM by Healthcare Professionals, wellbeing and stigma consciousness*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>1. gbMSM meta-perceptions of healthcare professionals T1</b> (M=56.83, SD=20.52)	-																	
<b>2. gbMSM meta-perceptions of healthcare professionals T2</b> (M=56.07, SD=21.45)	.63***	-																
<b>3. gbMSM meta-perceptions of healthcare professionals T3</b> (M=58.52, SD=20.66)	.59***	.74***	-															
<b>4. Depression T1</b> (M=5.78, SD=4.09)	-.23**	-.34***	-.18*	-														
<b>5. Depression T2</b> (M=5.31, SD=3.83)	-.17*	-.23**	-.20*	.69***	-													
<b>6. Depression T3</b> (M=5.32, SD=4.31)	-.29***	-.32***	-.17	.76***	.77***	-												
<b>7. Anxiety T1</b> (M=7.44, SD=4.54)	-.17*	-.33***	-.23*	.67***	.49***	.62***	-											
<b>8. Anxiety T2</b> (M=6.64, SD=4.34)	-.14	-.22**	-.16	.53***	.63***	.61***	.76***	-										
<b>9. Anxiety T3</b> (M=6.79, SD=4.53)	-.08	-.27**	-.14	.59***	.51***	.70***	.78***	.79***	-									
<b>10. Stress T1</b> (M=17.72, SD=7.13)	-.16*	-.20*	-.11	.68***	.50***	.60***	.74***	.59***	.66***	-								
<b>11. Stress T2</b> (M=16.49, SD=6.70)	-.20**	-.40***	-.23**	.59***	.72***	.69***	.67***	.75***	.67***	.70***	-							
<b>12. Stress T3</b>	-.18*	-.32***	-.20*	.61***	.63***	.74***	.69***	.66***	.75***	.76***	.79***	-						







T1-T3 Correlation Table of Perceived Healthcare Discrimination of GBMSM, Perceived Personal Control and wellbeing outcomes

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
<b>1. Perceived Healthcare Discrimination of gbMSM T1</b> (M=2.72, SD=1.61)	-																					
<b>2. Perceived Healthcare Discrimination of gbMSM T2</b> (M=2.72, SD=1.58)	.73***	-																				
<b>3. Perceived Healthcare Discrimination of gbMSM T3</b> (M=2.64, SD=1.42)	.72***	.71***	-																			
<b>4. GbMSM Identification T1</b> (M= 4.02 SD=1.57)	.18*	.27**	.12	-																		
<b>5. GbMSM Identification T2</b> (M= 4.03 SD=1.55)	.26***	.32***	.14	.77***	-																	
<b>6. GbMSM Identification T3</b> (M= 4.01 SD=1.57)	.33***	.32***	.32***	.73***	.76***	-																
<b>7. Perceived Personal Control T1</b> (M=5.05, SD=1.25)	-	-	-.30**	.12	.25**	.71***	-															
<b>8. Perceived Personal Control T2</b> (M=5.05, SD=1.16)	.32***	.25***	-	.12	.17*	.25**	.71***	-														
<b>9. Perceived Personal Control T3</b> (M=5.13, SD=1.21)	.32***	.25***	.30***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>10. Stress T1</b> (M=17.72, SD=7.13)	.40***	-.16	-.38***	.15	.17	.10	.72***	.74***	-													
<b>11. Stress T2</b> (M=16.49, SD=6.70)	.32***	.18*	.31*	-.16*	.20*	-.11	-.67***	-	-.	-												
<b>12. Stress T3</b> (M=17.51, SD=7.21)	.38***	.27***	.28**	-.07	-.04	-.10	-.57***	-	-.67***	.67***												
<b>13. Depression T1</b> (M=5.78, SD=4.09)	.29***	.10	.27**	-.10	-.08	-.10	-.62***	-	-.72***	.76***	.79***	-										
<b>14. Depression T2</b> (M=5.31, SD=3.83)	.26***	.09	.26**	-.16*	-.15	.15	-.58***	-	-.63***	.68***	.59***	.61***	-									
<b>15. Depression T3</b> (M=5.32, SD=4.31)	.25***	.16*	.15	-.13	-.14	-.27	-.50***	-	-.66**	.50***	.72***	.63***	.69***	-								
<b>16. Anxiety T1</b> (M=7.44, SD=4.54)	.24**	.04	.22*	-.12	-.12*	-.11	-.52***	-	-.68***	.60***	.69***	.74***	.76***	.77***	-							
<b>17. Anxiety T2</b> (M=6.64, SD=4.34)	.31***	.25***	.27**	-.05	-.04	.02	-.56***	-	-.58***	.74***	.67***	.69***	.67***	.49***	.62***	-						
<b>18. Anxiety T3</b> (M=6.79, SD=4.53)	.36***	.28***	.27**	-.08	-.00	-.07	-.48***	-	-.58***	.59***	.75***	.66***	.53***	.63***	.61***	.76***	-					
<b>19. Loneliness T1</b> (M=22.91, SD=7.61)	.19**	.04*	.21*	-.11	-.09	-.07	-.	-	-.56***	.66***	.67***	.75***	.59***	.51***	.70***	.78***	.79***	-				
<b>20. Loneliness T2</b> (M=21.61, SD=7.61)	.23**	.10	.35***	-	-	-.19*	-.51***	.48***	-	.60***	.65***	.59***	.61***	.59***	.49***	.58***	.52***	.43***	.40***	-		
<b>21. Loneliness T3</b> (M=22.18, SD=7.98)	.25**	.20*	.36***	-.23**	-	-	-.51***	.56***	.51***	-.62***	.53***	.68***	.58***	.46***	.62***	.56***	.42***	.55***	.51***	.74***	-	
	.25**	.09	.35***	.18*	-.26**	-.25**	-.59***	.64***	.60***	-.67***	.56***	.71***	.70***	.54***	.64***	.69***	.48***	.53***	-	.74***	.84***	-

Note: \* = p < .05, \*\* p < .01, \*\*\* p < .001

**Table 6**

*T1-T3 Correlation Table of Perceived Healthcare Discrimination of PrEP use, Perceived Personal Control and wellbeing outcomes*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
<b>1. Perceived Healthcare Discrimination of PrEP Users T1</b> (M=2.90, SD=1.44)	-																					
<b>2. Perceived Healthcare Discrimination of PrEP Users T2</b> (M=2.96, SD=1.42)	.60***	-																				
<b>3. Perceived Healthcare Discrimination of PrEP Users T3</b> (M=2.92, SD=1.34)	.54***	.65***	-																			
<b>4. GbMSM Identification T1</b> (M= 4.02 SD=1.57)	.18*	.17*	.16	-																		
<b>5.GbMSM Identification T2</b> (M= 4.03 SD=1.55)	.23**	.16*	.16	.77***	-																	
<b>6.GbMSM Identification T3</b> (M= 4.01 SD=1.57)	.24**	.14	.25**	.73***	.76***	-																
<b>7. Perceived Personal Control T1</b> (M=5.05, SD=1.25)	-.20**	-	-.26**	.12	.25**	.71***	-															
<b>8. Perceived Personal Control T2</b> (M=5.05, SD=1.16)	-.21**	-.30***	-.24**	.12	.17*	.25**	.71***	-														
<b>9. Perceived Personal Control T3</b> (M=5.13, SD=1.21)	-.28**	-.19*	-	.15	.17	.10	.72***	.74***	-													
<b>10. Stress T1</b> (M=17.72, SD=7.13)	.28***	.28***	.29***	-.16*	.20*	-.11	-.67***	-	-.	-												
<b>11. Stress T2</b> (M=16.49, SD=6.70)	.21**	.33***	.29***	-.07	-.04	-.10	-.57***	-.54***	.67***	-												
<b>12. Stress T3</b> (M=17.51, SD=7.21)	.17	.21*	.18*	-.10	-.08	-.10	-.62***	-.62***	-.74***	.70***	-											
<b>13. Depression T1</b> (M=5.78, SD=4.09)	.22***	.21**	.21*	-.16*	-.15	.15	-.58***	-.55***	-.63***	.68***	.59***	.61***	-									
<b>14. Depression T2</b> (M=5.31, SD=3.83)	.08	.20*	.17	-.13	-.14	-.27	-.50***	-.54***	-.66**	.50***	.72***	.63***	.69***	-								
<b>15. Depression T3</b> (M=5.32, SD=4.31)	.19*	.20*	.18*	-.12	-.12*	-.11	-.52***	-.63***	-.68***	.60***	.69***	.74***	.76***	.77***	-							
								.50***														



## Appendix I: Study 2a Mediation Results

**Table 1**

*Study 2a: Correlation table, including means and standard deviations for all variables of interest.*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>1. GbMSM Identification</b> ( <i>M</i> = 4.02 <i>SD</i> =1.57)	-													
<b>2. Social Support</b> ( <i>M</i> =3.19, <i>SD</i> = 1.49)	.69***	-												
<b>3. Perceived Personal Control</b> ( <i>M</i> =5.05, <i>SD</i> =1.25)	.21**	.22**	-											
<b>4. Attitudes to PrEP</b> ( <i>M</i> =5.02, <i>SD</i> =0.75)	.25***	.12	.04	-										
<b>5. Anxiety</b> ( <i>M</i> =7.44, <i>SD</i> =4.54)	-.49	.12	-.56***	-.05	-									
<b>6. Depression</b> ( <i>M</i> =5.78, <i>SD</i> =4.09)	-.16*	-.03	-.58***	.12	.67***	-								
<b>7. Stress</b> ( <i>M</i> =17.72, <i>SD</i> =7.13)	-.16*	-.12	-.67***	-.10	.74***	.68***	-							
<b>8. Loneliness</b> ( <i>M</i> =22.91, <i>SD</i> =7.61)	-.27***	-.28***	-.56***	-.06	.52***	.59***	.65***	-						
<b>9. Personal PrEP awareness</b> ( <i>M</i> =3.67, <i>SD</i> = 1.74)	.18*	.10	.09	.35***	-.12	-.11	-.18**	-.21**	-					
<b>10. gbMSM meta-perceptions of healthcare professionals</b> ( <i>M</i> =56.83, <i>SD</i> =20.52)	-.01	.05	.15*	.10	-.17*	-.23**	-.20**	-.24***	.18*	-				
<b>11. gbMSM meta-perceptions of healthcare professionals beliefs of PrEP use</b> ( <i>M</i> =67.53, <i>SD</i> =21.40)	-.10	-.04	.12	.21**	-.10	-.17*	-.15*	-.15*	.21**	.51***	-			
<b>12. Healthcare perceived gbMSM discrimination</b> ( <i>M</i> =2.72, <i>SD</i> =1.61)	.18*	.16*	-.32***	.12	.31***	.26***	.32***	.23**	-.01	-.39***	-.23**	-		
<b>13. Healthcare perceived discrimination of PrEP users</b> ( <i>M</i> =2.90, <i>SD</i> =1.44)	.18*	.14*	-.20**	-.02	.27***	.22**	.28***	.17*	-.11	-.32***	-.40***	.67***	-	
<b>14. Age</b> ( <i>M</i> =34.23, <i>SD</i> =12.05)	.03	-.13	.13	-.15*	-.31***	-.12	-.24***	-.16*	.07	.10	-.05	-.23**	-.16*	-

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 2***Study 2a: Predictors of Attitudes to PrEP*

	B	SE	$\beta$	Tolerance	VIF
Constant	4.28	.61			
gbMSM Identification	.16	.05	.34***	.48	2.08
Social Support	-.08	.05	-.16	.48	2.08
Stigma Consciousness	-.04	.06	-.08	.49	2.04
Stress	-.02	.01	-.14	.30	3.31
Depression	-.01	.02	-.05	.44	2.28
Anxiety	-.01	.02	-.05	.36	2.79
Loneliness	.01	.01	.15	.49	2.05
Meta-Perceptions of gbMSM by Healthcare Workers	.00	.00	.02	.65	1.55
Meta-Perceptions by gbMSM of PrEP usage by Healthcare Workers	.01	.00	.21*	.61	1.64
Perceived Discrimination from Healthcare Workers	.08	.05	.18	.46	2.19
Perceived Discrimination from Healthcare Workers on PrEP Usage	-.02	.05	-.03	.48	2.07
Personal PrEP Awareness	.07	.03	.15*	.99	1.13
Age	-.01	.01	-.18*	.78	1.28
R <sup>2</sup>					.22

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 3***Study 2a: Predictors of Stress*

	B	SE	$\beta$	Tolerance	VIF
Constant	13.90	3.44			
gbMSM Identification	.24	.28	.05	.50	2.02
Social Support	-.38	.30	-.08	.49	2.05
Stigma Consciousness	-1.30	.33	-.23***	.54	1.85
Depression	.19	.11	.11	.45	2.23
Anxiety	.63	.10	.41***	.45	2.25
Loneliness	.21	.05	.23***	.54	1.86
Meta-Perceptions of gbMSM by Healthcare Workers	.01	.02	.03	.65	1.54
Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	-.01	.02	-.02	.63	1.60
Perceived Discrimination from Healthcare Workers	.01	.28	.00	.46	2.18
Perceived Discrimination from Healthcare Workers on PrEP Usage	.28	.31	.10	.49	2.06
Age	-.02	.03	-.04	.79	1.27
R <sup>2</sup>					.69

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 4***Study 2a: Predictors of Loneliness*

	B	SE	$\beta$	Tolerance	VIF
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	B	SE	$\beta$	Tolerance	VIF
Constant	24.66	4.57			
gbMSM Identification	-.46	.38	-.09	.50	2.01
Social Support	-.60	.40	-.12	.49	2.04
Stigma Consciousness	-.85	.47	-.14	.51	1.98
Stress	.39	.10	.36***	.33	2.99
Depression	.40	.15	.21**	.46	2.18
Anxiety	-.01	.15	-.01	.36	2.79
Meta-Perceptions of gbMSM by Healthcare Workers	-.04	.03	-.12	.66	1.52
Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	.00	.03	.00	.62	1.60
Perceived Discrimination from Healthcare Workers	.07	.38	.02	.46	2.18
Perceived Discrimination from Healthcare Workers on PrEP Usage	-.09	.43	-.02	.48	2.07
Age	-.01	.04	-.02	.79	1.27
R <sup>2</sup>					.51

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 5**

*Study 2a: Predictors of Depression*

	B	SE	$\beta$	Tolerance	VIF
Constant	1.39	2.49			
gbMSM Identification	-.26	.19	-.10	.50	2.01
Social Support	.22	.20	.08	.49	2.06
Stigma Consciousness	-.43	.24	-.13	.51	1.98
Stress	.09	.05	.16	.31	3.20
Anxiety	.36	.07	.41***	.41	2.42
Loneliness	.10	.04	.19**	.51	1.94
Meta-Perceptions of gbMSM by Healthcare Workers	-.02	.01	-.07	.65	1.53
Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	-.01	.01	-.03	.62	1.60
Perceived Discrimination from Healthcare Workers	-.02	.19	-.01	.46	2.18
Perceived Discrimination from Healthcare Workers on PrEP Usage	.03	.21	.01	.48	2.07
Age	.04	.02	.12*	.80	1.24
R <sup>2</sup>					.56

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 6**

*Study 2a: Predictors of Anxiety*

	B	SE	$\beta$	Tolerance	VIF
Constant	1.10	2.52			
gbMSM Identification	.09	.20	.03	.49	2.02
Social Support	.21	.21	.07	.49	2.06
Stigma Consciousness	-.17	.24	-.05	.50	2.01
Stress	.31	.05	.48***	.38	2.62
Depression	.37	.07	.33***	.51	1.97
Loneliness	-.00	.04	-.00	.49	2.03
Meta-Perceptions of gbMSM by Healthcare Workers	.01	.04	.04	.65	1.54
Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	.00	.01	.01	.62	1.60

Perceived Discrimination from Healthcare Workers	.01	.00	.00	.46	2.18
Perceived Discrimination from Healthcare Workers on PrEP Usage	.03	.01	.01	.48	2.07
Age	-.06	-.16	-.15**	.83	1.20
R <sup>2</sup>					.64

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 7**

*Summary of Study 2a mediation analysis (H7.1a, H7.1b).*

Model	Perceived Education of PrEP		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T1 gbMSM Identification → T1 Perceived Education of PrEP</b>	.16	<b>.02</b>	<b>.30</b>
<b>T1 Perceived Education of PrEP → T1 Attitudes to PrEP</b>	1.55	<b>.74</b>	<b>2.36</b>
Direct Effect	1.31	<b>.47</b>	<b>2.15</b>
Total Effect	1.56	<b>.70</b>	<b>2.42</b>
Indirect Effect (T1 Perceived Education of PrEP)	.25	<b>.02</b>	<b>.60</b>

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 8**

*Summary of Study 2a mediation analysis (H7.2a, H7.2b, H7.2c).*

Model	T1 Social Support			T1 Perceived Personal Control		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T1 gbMSM Identification → T1 Stress</b>						
T1 gbMSM Identification → T1 Mediator	.65	<b>.56</b>	<b>.75</b>	.16	<b>.05</b>	<b>.26</b>
T1 Mediator → T1 Stress	-.89	-1.77	.002	-1.85	<b>-2.24</b>	<b>-1.47</b>
Direct	-.04	<b>-.88</b>	<b>-.79</b>	-.05	-.52	.42
Total	-.62	<b>-1.23</b>	<b>-.02</b>	-.62	<b>-1.23</b>	<b>-.02</b>
Indirect	-.58	<b>-1.17</b>	<b>-.02</b>	-.58	<b>-1.07</b>	<b>-.13</b>
<b>T1 gbMSM Identification → T1 Loneliness</b>						
T1 gbMSM Identification → T1 Mediator	.65	<b>.56</b>	<b>.75</b>	.16	<b>.05</b>	<b>.26</b>
T1 Mediator → T1 Loneliness	-1.18	<b>-2.11</b>	<b>-.24</b>	-3.11	<b>-3.83</b>	<b>-2.39</b>
Direct	-.60	-.91	.76	-.76	<b>-1.32</b>	<b>-.20</b>
Total	-1.25	<b>-1.89</b>	<b>-.60</b>	-1.25	<b>-1.89</b>	<b>-.60</b>
Indirect	-.75	<b>-1.40</b>	<b>-.11</b>	-.75	<b>-1.40</b>	<b>-.10</b>
<b>T1 gbMSM Identification → T1 Depression</b>						
T1 gbMSM Identification → T1 Mediator	.65	<b>.56</b>	<b>.75</b>	.16	<b>.05</b>	<b>.26</b>
T1 Mediator → T1 Depression				-1.85	<b>-2.24</b>	<b>-1.47</b>
Direct				-.09	-.40	.21
Total	-.39	<b>-.74</b>	<b>-.03</b>	-.39	<b>-.74</b>	<b>-.03</b>
Indirect	-.07	-.40	.25	-.29	<b>-.54</b>	<b>-.07</b>

**T1 gbMSM Identification → T1**

**Anxiety**

T1 gbMSM Identification → T1	.65	<b>.56</b>	<b>.75</b>	.16	<b>.05</b>	<b>.26</b>
Mediator						
T1 Mediator → T1 Anxiety				-1.93	<b>-2.35</b>	<b>-1.51</b>
Direct				.23	-.10	.55
Total	-.07	-.45	.31	-.07	-.46	.31
Indirect	-.14	-.48	.23	.30	<b>-.58</b>	<b>-.06</b>

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 9**

*Summary of Study 2a mediation analysis (H7.3a, H7.3b).*

Model	T1 Stigma Consciousness → T1 Loneliness		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T1</b>			
<b>Stress</b>			
T1 meta-perceptions of gbMSM by healthcare professionals → T1	.01	<b>-.02</b>	<b>.00</b>
Stigma Consciousness			
T1 Stigma Consciousness → T1 Loneliness	-1.92	<b>.99</b>	<b>2.86</b>
T1 Loneliness → T1 Stress	.52	<b>.42</b>	<b>.62</b>
Direct	-.00	-.04	.04
Total	-.06	<b>-.11</b>	<b>-.01</b>
Indirect	-.01	<b>-.02</b>	<b>-.00</b>
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T1</b>			
<b>Depression</b>			
T1 meta-perceptions of gbMSM by healthcare professionals → T1	-.01	<b>-.02</b>	<b>-.00</b>
Stigma Consciousness			
T1 Stigma Consciousness → T1 Loneliness	1.92	<b>.99</b>	<b>2.86</b>
T1 Loneliness → T1 Depression	.30	<b>.23</b>	<b>.37</b>
Direct	-.02	<b>-.04</b>	<b>-.01</b>
Total	-.04	<b>-.07</b>	<b>-.01</b>
Indirect	-.01	<b>-.01</b>	<b>-.00</b>
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T1</b>			
<b>Anxiety</b>			
T1 meta-perceptions of gbMSM by healthcare professionals → T1	-.01	<b>-.02</b>	<b>-.00</b>
Stigma Consciousness			
T1 Stigma Consciousness → T1 Loneliness	1.92	<b>.99</b>	<b>2.86</b>
T1 Loneliness → T1 Anxiety	.24	<b>.17</b>	<b>.32</b>
Direct	.00	-.02	.03
Total	-.03	-.06	.00
Indirect	-.01	<b>-.01</b>	<b>-.00</b>

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 10**

*Summary of Study 2a mediation analysis (H7.4a, H7.4b).*

Model	T1 Stigma Consciousness → T1 Loneliness		
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	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T1 meta-perceptions of PrEP-Users by healthcare professionals → T1 Stress</b>			
T1 meta-perceptions of PrEP-users by healthcare professionals → T1 Stigma Consciousness	-.01	<b>-.02</b>	<b>-.00</b>
T1 Stigma Consciousness → T1 Loneliness	1.86	<b>.84</b>	<b>2.87</b>
T1 Loneliness → T1 Stress	.51	<b>.40</b>	<b>.61</b>
Direct	-.01	-.05	.02
Total	-.05	<b>-.10</b>	<b>-.01</b>
Indirect	-.01	<b>-.02</b>	<b>-.00</b>
<b>T1 meta-perceptions of PrEP-Users by healthcare professionals → T1 Depression</b>			
T1 meta-perceptions of PrEP-users by healthcare professionals → T1 Stigma Consciousness	-.01	<b>-.02</b>	<b>-.00</b>
T1 Stigma Consciousness → T1 Loneliness	1.86	<b>.84</b>	<b>2.87</b>
T1 Loneliness → T1 Depression	.29	<b>.22</b>	<b>.36</b>
Direct	.26	-.07	.58
Total	-.03	<b>-.06</b>	<b>-.00</b>
Indirect	-.00	<b>-.01</b>	<b>-.00</b>
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T1 Anxiety</b>			
T1 meta-perceptions of PrEP-users by healthcare professionals → T1 Stigma Consciousness	-.01	<b>-.02</b>	<b>-.00</b>
T1 Stigma Consciousness → T1 Loneliness	1.86	<b>.84</b>	<b>2.87</b>
T1 Loneliness → T1 Anxiety	.24	<b>.17</b>	<b>.32</b>
Direct	.01	-.03	.02
Total	-.03	-.06	.00
Indirect	-.00	<b>-.01</b>	<b>-.00</b>

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 11**

*Summary of Study 2a mediation analysis (H7.5a, H7.5b).*

Model	T1 gbMSM Identification → T1 Perceived Personal Control		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T1 Perceived Healthcare Discrimination → T1 Stress</b>			
T1 Perceived Healthcare Discrimination → T1 gbMSM Identification	.19	<b>.05</b>	<b>.33</b>
T1 gbMSM Identification → T1 Perceived Personal Control	.22	<b>.12</b>	<b>.32</b>
T1 Perceived Personal Control → T1 Stress	-3.51	<b>-4.15</b>	<b>-2.87</b>
Direct	.45	-.05	.95
Total	1.25	<b>.66</b>	<b>1.84</b>
Indirect	-.15	<b>-.29</b>	<b>-.04</b>
<b>T1 Perceived Healthcare Discrimination → T1 Loneliness</b>			
T1 Perceived Healthcare Discrimination → T1 gbMSM Identification	.19	<b>.05</b>	<b>.33</b>
T1 gbMSM Identification → T1 Perceived Personal Control	.22	<b>.12</b>	<b>.32</b>

T1 Perceived Personal Control → T1 Loneliness	-2.96	<b>-3.72</b>	<b>-2.20</b>
Direct	.43	-.16	1.03
Total	.97	<b>.31</b>	<b>1.62</b>
Indirect	-.12	<b>-.25</b>	<b>-.03</b>
<b>T1 Perceived Healthcare Discrimination → T1 Depression</b>			
T1 Perceived Healthcare Discrimination → T1 gbMSM Identification	.19	<b>.05</b>	<b>.33</b>
T1 gbMSM Identification → T1 Perceived Personal Control	.22	<b>.12</b>	<b>.32</b>
T1 Perceived Personal Control → T1 Depression	-1.75	<b>-2.16</b>	<b>-1.34</b>
Direct	.26	-.07	.58
Total	.64	<b>.29</b>	<b>.99</b>
Indirect	-.07	<b>-.14</b>	<b>-.02</b>
<b>T1 Perceived Healthcare Discrimination → T1 Anxiety</b>			
T1 Perceived Healthcare Discrimination → T1 gbMSM Identification	.19	<b>.05</b>	<b>.33</b>
T1 gbMSM Identification → T1 Perceived Personal Control	.22	<b>.12</b>	<b>.32</b>
T1 Perceived Personal Control → T1 Anxiety	-1.86	<b>-2.30</b>	<b>-1.41</b>
Direct	.25	-.09	.60
Total	.72	<b>.35</b>	<b>1.09</b>
Indirect	-.08	<b>-.16</b>	<b>-.02</b>

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 12**

*Summary of Study 2a mediation analysis (H7.6a, H7.6b).*

Model	T1 gbMSM Identification → T1 Perceived Personal Control		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T1 Stress</b>			
T1 Perceived Healthcare Discrimination of PrEP Usage → T1 gbMSM Identification	.20	<b>.05</b>	<b>.35</b>
T1 gbMSM Identification → T1 Perceived Personal Control	.20	<b>.09</b>	<b>.31</b>
T1 Perceived Personal Control → T1 Stress	-3.53	<b>-4.14</b>	<b>-2.92</b>
Direct	.67	<b>.15</b>	<b>1.20</b>
Total	1.21	<b>.55</b>	<b>1.86</b>
Indirect	-.14	<b>-.31</b>	<b>-.02</b>
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T1 Loneliness</b>			
T1 Perceived Healthcare Discrimination of PrEP Usage → T1 gbMSM Identification	.20	<b>.05</b>	<b>.35</b>
T1 gbMSM Identification → T1 Perceived Personal Control	.20	<b>.09</b>	<b>.31</b>
T1 Perceived Personal Control → T1 Loneliness	-3.02	<b>-3.75</b>	<b>-2.29</b>
Direct	.49	-.14	1.12
Total	.81	<b>.08</b>	<b>1.53</b>

Indirect		-0.12	<b>-0.26</b>	<b>-0.02</b>
<b>T1 Perceived Healthcare Discrimination of PrEP Usage</b>				
<b>→ T1 Depression</b>				
T1 Perceived Healthcare Discrimination of PrEP Usage →	.20		<b>.05</b>	<b>.35</b>
T1 gbMSM Identification				
T1 gbMSM Identification → T1 Perceived Personal Control	.20		<b>.09</b>	<b>.31</b>
T1 Perceived Personal Control → T1 Depression	-1.77		<b>-2.16</b>	<b>-1.37</b>
Direct	.34		<b>.01</b>	<b>.68</b>
Total	.60		-0.21	.98
Indirect	-0.07		<b>-0.15</b>	<b>-0.01</b>
<b>T1 Perceived Healthcare Discrimination of PrEP Usage</b>				
<b>→ T1 Anxiety</b>				
T1 Perceived Healthcare Discrimination of PrEP Usage →	.20		<b>.05</b>	<b>.35</b>
T1 gbMSM Identification				
T1 gbMSM Identification → T1 Perceived Personal Control	.20		<b>.09</b>	<b>.31</b>
T1 Perceived Personal Control → T1 Anxiety	-1.87		<b>-2.29</b>	<b>-1.44</b>
Direct	.38		<b>.01</b>	<b>.75</b>
Total	.71		<b>.30</b>	<b>1.12</b>
Indirect	-0.08		<b>-0.17</b>	<b>-0.01</b>

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

## Appendix J: Study 2b Mediation Results

**Table 1**

*Study 2b: Predictors of T2 Attitudes to PrEP*

	B	SE	$\beta$	Tolerance	VIF
Constant	56.11	8.33			
T2 gbMSM Identification	1.47	.60	.28*	.49	2.06
T2 Social Support	.32	.58	.06	.54	1.85
T2 Perceived Personal Control	-.40	.84	-.06	.44	2.27
T2 Stigma Consciousness	2.00	.73	.28**	.60	1.67
T2 Stress	-.21	.19	-.17	.27	3.76
T2 Depression	.36	.29	.17	.34	2.91
T2 Anxiety	-.18	.24	-.10	.38	2.60
T2 Loneliness	.15	.14	.14	.37	2.70
T2 Meta-Perceptions of gbMSM by Healthcare Workers	-.05	.05	-.12	.38	2.63
T2 Meta-Perceptions by gbMSM of PrEP usage by Healthcare Workers	.07	.04	.20	.46	2.18
T2 Perceived Discrimination from Healthcare Workers	.03	.69	.01	.36	2.76
T2 Perceived Discrimination from Healthcare Workers on PrEP Usage	-.62	.75	-.10	.41	2.47
T2 Personal PrEP Awareness	.39	.45	.07	.94	1.07
Age	-.13	.06	-.18*	.85	1.18
R <sup>2</sup>					.27

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 2**

*Study 2b: Predictors of T2 Stress*

	B	SE	$\beta$	Tolerance	VIF
Constant	7.69	3.84			
T2 gbMSM Identification	-.13	.28	-.03	.49	2.05
T2 Social Support	.30	.28	.07	.55	1.83
T2 Perceived Personal Control	-.57	.40	-.10	.45	2.23
T2 Stigma Consciousness	.90	.34	.16*	.64	1.56
T2 Depression	.53	.13	.31***	.39	2.53
T2 Anxiety	.56	.10	.37***	.48	2.08
T2 Loneliness	.12	.07	.14	.38	2.62
T2 Meta-Perceptions of gbMSM by Healthcare Workers	-.03	.02	-.11	.39	2.57
T2 Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	.02	.02	.07	.46	2.16
T2 Perceived Discrimination from Healthcare Workers	-.56	.33	-.13	.37	2.69

T2 Perceived Discrimination from Healthcare Workers on PrEP Usage	.49	.35	.10	.41	2.42
Age	-.02	.03	-.04	.86	1.16
R <sup>2</sup>					.71

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 3**

*Study 2b: Predictors of T2 Loneliness*

	B	SE	$\beta$	Tolerance	VIF
Constant	24.78	4.84			
T2 gbMSM Identification	-.62	.39	-.13	.50	2.00
T2 Social Support	-.49	.38	-.10	.55	1.81
T2 Perceived Personal Control	-1.80	.53	-.28** *		
T2 Stigma Consciousness	1.64	.47	.25** *	.67	1.49
T2 Stress	.22	.12	.19	.28	3.53
T2 Depression	.46	.19	.23*	.40	2.53
T2 Anxiety	.07	.16	.04	.39	2.58
T2 Meta-Perceptions of gbMSM by Healthcare Workers	-.02	.03	-.04	.39	2.57
T2 Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	.01	.03	.07	.47	2.15
T2 Perceived Discrimination from Healthcare Workers	-.11	.45	-.02	.36	2.76
T2 Perceived Discrimination from Healthcare Workers on PrEP Usage	-.29	.49	-.00	.42	2.38
Age	-.07	.04	-.10	.88	1.14
R <sup>2</sup>					.63

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 4**

*Study 2a: Predictors of T2 Depression*

	B	SE	$\beta$	Tolerance	VIF
Constant	2.53	2.58			
T2 gbMSM Identification	-.11	.19	-.05	.49	2.05
T2 Social Support	.07	.18	.03	.54	1.84
T2 Perceived Personal Control	-.57	.26	-.18*	.46	2.18
T2 Stigma Consciousness	-.57	.22	-.17*	.64	1.57
T2 Stress	.24	.06	.40** *	.30	3.29
T2 Anxiety	.19	.08	.21*	.41	2.45
T2 Loneliness	.11	.04	.22*	.39	2.55

T2 Meta-Perceptions of gbMSM by Healthcare Workers	.01	.02	.04	.38	2.61
T2 Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	-.02	.01	-.09	.46	2.15
T2 Perceived Discrimination from Healthcare Workers	.21	.22	.08	.37	2.74
T2 Perceived Discrimination from Healthcare Workers on PrEP Usage	-.29	.23	-.10	.41	2.43
Age	.04	.02	.14*	.90	1.12
R <sup>2</sup>					.66

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 5**

*Study 2b: Predictors of T2 Anxiety*

	B	SE	$\beta$	Tolerance	VIF
Constant	-.90	3.09			
T2 gbMSM Identification	.20	.22	.07	.49	2.05
T2 Social Support	-.05	.22	-.02	.54	1.85
T2 Perceived Personal Control	-.07	.32	-.02	.44	2.27
T2 Stigma Consciousness	-.21	.27	-.06	.61	1.65
T2 Stress	.35	.07	.54** *	.33	3.02
T2 Depression	.27	.11	.24*	.36	2.76
T2 Loneliness	.02	.05	.04	.37	2.68
T2 Meta-Perceptions of gbMSM by Healthcare Workers	.03	.02	.16	.40	2.55
T2 Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	-.02	.02	-.08	.46	2.16
T2 Perceived Discrimination from Healthcare Workers	.41	.26	.15	.37	2.70
T2 Perceived Discrimination from Healthcare Workers on PrEP Usage	-.03	.28	-.01	.41	2.46
Age	-.04	.02	-.10	.87	1.15
R <sup>2</sup>					.61

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 6**

*Study 2b: T3 Predictors of T3 Attitudes to PrEP*

	B	SE	$\beta$	Tolerance	VIF
Constant	45.17	12.01			
T3 gbMSM Identification	3.02	.94	.44**	.39	2.54
T3 Social Support	-1.82	.96	-.24	.45	2.23
T3 Perceived Personal Control	-.61	1.31	-.07	.31	3.20
T3 Stigma Consciousness	1.32	1.05	.14	.61	1.65

T3 Stress	.04	.26	.03	.24	4.17
T3 Depression	-.24	.38	-.10	.30	3.35
T3 Anxiety	-.64	.34	-.28	.35	2.87
T3 Loneliness	.37	.21	.27	.31	3.25
T3 Meta-Perceptions of gbMSM by Healthcare Workers	.04	.07	.08	.46	2.20
T3 Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	.09	.06	.18	.51	1.97
T3 Perceived Discrimination from Healthcare Workers	.62	1.17	.08	.32	3.16
T3 Perceived Discrimination from Healthcare Workers on PrEP Usage	-.11	1.07	-.01	.44	2.26
T3 Perceived Education of PrEP	1.93	.65	.28**	.82	1.22
Age	-.13	.09	-.14	.88	1.13
R <sup>2</sup>					.35

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 7**

*Study 2b: T3 Predictors of T3 Stress*

	B	SE	$\beta$	Tolerance	VIF
Constant	19.93	4.42			
T3 gbMSM Identification	.61	.38	.13	.41	2.47
T3 Social Support	-.14	.38	-.03	.46	2.17
T3 Perceived Personal Control	-2.04	.48	-	.39	2.54
			.35**		
			*		
T3 Stigma Consciousness	-.18	.43	-.03	.61	1.64
T3 Depression	.20	.15	.12	.30	3.29
T3 Anxiety	.63	.12	.40**	.47	2.14
			*		
T3 Loneliness	.18	.08	.20*	.33	3.06
T3 Meta-Perceptions of gbMSM by Healthcare Workers	-.01	.03	-.02	.48	2.10
T3 Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	-.02	.03	-.07	.52	1.92
T3 Perceived Discrimination from Healthcare Workers	-.39	.47	-.07	.33	3.09
T3 Perceived Discrimination from Healthcare Workers on PrEP Usage	-.26	.43	-.05	.45	2.24
Age	.03	.04	-.04	.89	1.13
R <sup>2</sup>					.76

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 8**

*Study 2b: Predictors of T3 Loneliness*

	B	SE	$\beta$	Tolerance	VIF
Constant	15.93	5.86			
T3 gbMSM Identification	-.91	.47	-.18	.41	2.44
T3 Social Support	-.92	.47	-.16	.48	2.09
T3 Perceived Personal Control	-.86	.65	-.13	.34	2.98
T3 Stigma Consciousness	1.23	.52	.17*	.65	1.55
T3 Stress	.29	.13	.26*	.25	3.93
T3 Depression	.53	.19	.29**	.33	3.07
T3 Anxiety	-.04	.17	-.03	.36	2.81
T3 Meta-Perceptions of gbMSM by Healthcare Workers	.02	.03	.04	.48	2.10
T3 Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	.03	.03	.07	.52	1.92
T3 Perceived Discrimination from Healthcare Workers	1.24	.58	.22*	.34	2.97
T3 Perceived Discrimination from Healthcare Workers on PrEP Usage	.11	.54	.02	.45	2.24
Age	-.05	.04	-.06	.89	1.12
R <sup>2</sup>					.69

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 9**

*Study 2b: T3 Predictors of T3 Depression*

	B	SE	$\beta$	Tolerance	VIF
Constant	3.37	3.28			
T3 gbMSM Identification	.12	.25	.04	.40	2.53
T3 Social Support	-.07	.25	-.02	.46	2.17
T3 Perceived Personal Control	-1.00	.34	-.28**	.36	2.77
T3 Stigma Consciousness	-.24	.29	-.06	.61	1.63
T3 Stress	.09	.07	.15	.25	4.07
T3 Anxiety	.30	.09	.31**	.40	2.49
			*		
T3 Loneliness	.15	.05	.28**	.34	2.97
T3 Meta-Perceptions of gbMSM by Healthcare Workers	.00	.02	.02	.48	2.10
T3 Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	.01	.02	.05	.52	1.92
T3 Perceived Discrimination from Healthcare Workers	-.33	.32	-.10	.33	3.08
T3 Perceived Discrimination from Healthcare Workers on PrEP Usage	.34	.29	.10	.45	2.21
Age	-.00	.02	-.01	.88	1.13
R <sup>2</sup>					.70

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 10**



Study 2b: Predictors of T3 Anxiety

	B	SE	$\beta$	Tolerance	VIF
Constant	-4.65	3.74			
T3 gbMSM Identification	-.37	.29	-.13	.40	2.50
T3 Social Support	.36	.29	.11	.47	2.14
T3 Perceived Personal Control	.64	.40	.17	.34	2.96
T3 Stigma Consciousness	.26	.33	.06	.61	1.64
T3 Stress	.38	.07	.59** *	.32	3.16
T3 Depression	.39	.11	.37** *	.34	2.96
T3 Loneliness	-.02	.07	-.03	.31	3.23
T3 Meta-Perceptions of gbMSM by Healthcare Workers	.01	.02	.03	.48	2.10
T3 Meta-Perceptions of gbMSM by Healthcare Workers on PrEP Usage	-.00	.02	-.01	.52	1.93
T3 Perceived Discrimination from Healthcare Workers	.14	.37	.04	.32	3.11
T3 Perceived Discrimination from Healthcare Workers on PrEP Usage	-.01	.34	-.00	.45	2.24
Age	-.03	.03	-.08	.90	1.11
R <sup>2</sup>					.64

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 11**

Summary of Study 2b mediation analysis (H8.1, H8.2a, H8.2b).

Model	Perceived PrEP Education(T2/T3)		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T1 gbMSM Identification → T2 Attitudes to PrEP</b>			
Direct Effect	.55	.01	1.09
Total Effect	.55	.02	1.09
Indirect Effect (T2 Perceived Education of PrEP)	.00	-.05	.06
<b>T1 gbMSM Identification → T2 Attitudes PrEP</b>			
Direct Effect	.75	.09	1.40
Total Effect	.74	.09	1.40
Indirect Effect (T3 Perceived Education of PrEP)	-.00	-.10	.07
<b>T1 gbMSM Identification → T3 Attitudes to PrEP</b>			

Direct Effect	.11	-.60	.82
Total Effect	.16	-.55	.87
Indirect Effect (T2 Perceived Education of PrEP)	.05	-.07	.19

**T1 gbMSM Identification → T3 Attitudes to PrEP**

Direct Effect	.13	-.56	.82
Total Effect	.11	-.60	.82
Indirect Effect (T3 Perceived Education of PrEP)	-.02	-.26	.19

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 12**

*Summary of Study 2b mediation analysis (H8.3, H8.4, H8.5, H8.6, H8.7).*

Model	T2/T3 Social Support		T2/T3 Perceived Personal Control			
	<i>b</i>	<i>LLCI</i>	<i>b</i>	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T1 gbMSM Identification → T2 Stress</b>						
Direct Effect	.17	-.50	.83	.31	-.14	.76
Total Effect	.17	-.49	.83	.38	-.10	.86
Indirect Effect (T2)	.00	-.11	.08	.07	-.09	.31
<b>T1 gbMSM Identification → T2 Loneliness</b>						
Direct Effect	-.05	-.76	.67	-.19	-.66	.29
Total Effect	-.05	-.76	.67	-.04	-.57	.49
Indirect Effect (T2)	-.00	-.14	.07	.15	-.11	.47
<b>T1 gbMSM Identification → T2 Depression</b>						
Direct Effect	-.12	-.51	.26	-.01	-.26	.25
Total Effect	-.12	-.51	.26	.04	-.24	.32
Indirect Effect (T2)	-.00	-.08	.06	.05	-.06	.20
<b>T1 gbMSM Identification → T2 Anxiety</b>						
Direct Effect	-.22	-.61	.17	-.09	-.35	.81
Total Effect	-.22	-.61	.17	-.06	-.34	.23
Indirect Effect (T2)	.00	-.06	.04	.03	-.08	.15
<b>T1 gbMSM Identification → T3 Stress</b>						
Direct Effect	-.39	-1.05	.27	.13	-.38	.64
Total Effect	-.40	-1.05	.26	.13	-.38	.63
Indirect Effect (T2)	-.00	-.12	.09	.00	-.07	.10
<b>T1 gbMSM Identification → T3 Stress</b>						
Direct Effect	-.34	-.98	.30	.14	-.36	.63
Total Effect	-.39	-1.05	.27	.13	-.38	.64
Indirect Effect (T3)	-.05	-.23	.17	-.01	-.14	.14

**T1 gbMSM Identification → T3****Loneliness**

Direct Effect	.24	-.44	.91	.21	-.31	.72
Total Effect	.19	-.49	.88	.21	-.31	.72
Indirect Effect (T2)	-.04	-.25	.10	.00	-.06	.09

**T1 gbMSM Identification → T3****Loneliness**

Direct Effect	.27	-.41	.94	.14	-.36	.65
Total Effect	.24	-.44	.91	.21	-.31	.72
Indirect Effect (T3)	-.03	-.15	.12	.06	-.09	.22

**T1 gbMSM Identification → T3****Depression**

Direct Effect	.06	-.33	.45	.24	-.05	.53
Total Effect	.06	-.33	.44	.24	-.05	.53
Indirect Effect (T2)	-.01	-.08	.08	-.00	-.04	.05

**T1 gbMSM Identification → T3****Depression**

Direct Effect	.07	-.32	.46	.20	-.08	.47
Total Effect	.06	-.33	.45	.24	-.05	.53
Indirect Effect (T3)	-.01	-.06	.06	.04	-.05	.16

**T1 gbMSM Identification → T3****Anxiety**

Direct Effect	-.13	-.56	.30	-.01	-.32	.31
Total Effect	-.14	-.57	.29	-.00	-.32	.31
Indirect Effect (T2)	-.01	-.08	.04	.00	-.05	.05

**T1 gbMSM Identification → T3****Anxiety**

Direct Effect	-.13	-.56	.31	-.01	-.33	.31
Total Effect	-.13	-.56	.30	-.01	-.32	.31
Indirect Effect (T3)	-.00	-.07	.04	.00	-.05	.06

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 13**

*Summary of Study 2b mediation analysis (H8.8, H8.9, H8.10).*

Model	T2/T3 Stigma Consciousness → T2/T3 Loneliness		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T2 Stress</b>			
Direct	-.01	-.04	.03
Total	-.00	-.04	.03
Indirect (T2)	-.00	-.01	.00
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T2 Depression</b>			
Direct	.00	-.02	.02

Total	.01	-.02	.03
Indirect (T2)	-.00	-.00	.00
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T2 Anxiety</b>			
Direct	.01	-.01	.03
Total	.01	-.01	.03
Indirect (T2)	-.00	-.00	.00
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T3 Stress</b>			
Direct	-.00	-.04	.03
Total	-.00	-.04	.03
Indirect (T2)	-.00	-.00	.00
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T3 Stress</b>			
Direct	-.00	-.04	.03
Total	-.01	-.05	.03
Indirect (T3)	-.00	-.01	.00
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T3 Depression</b>			
Direct	-.02	-.04	.00
Total	-.02	-.04	.00
Indirect (T2)	.00	-.00	.00
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T3 Depression</b>			
Direct	-.02	-.04	.00
Total	-.02	-.04	.00
Indirect (T3)	-.00	-.01	.00
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T3 Anxiety</b>			
Direct	.01	-.01	.04
Total	.01	-.01	.04
Indirect (T2)	-.00	-.00	.00
<b>T1 meta-perceptions of gbMSM by healthcare professionals → T3 Anxiety</b>			
Direct	.01	-.01	.04
Total	.01	-.01	.04
Indirect (T3)	-.00	-.00	.00

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 14**

*Summary of Study 2b mediation analysis (H8.11, H8.12, H8.13).*

Model	T2/T3 Stigma Consciousness → T2/T3 Loneliness		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>

<b>T1 meta-perceptions of PrEP Users by healthcare professionals → T2 Stress</b>			
Direct	.01	-.02	.04
Total	.00	-.03	.04
Indirect (T2)	-.00	-.00	.00
<b>T1 meta-perceptions of PrEP Users by healthcare professionals → T2 Depression</b>			
Direct	.00	-.02	.02
Total	.00	-.02	.02
Indirect (T2)	-.00	-.00	.00
<b>T1 meta-perceptions of PrEP Users by healthcare professionals → T2 Anxiety</b>			
Direct	.01	-.01	.03
Total	.01	-.01	.03
Indirect (T2)	-.00	-.00	.00
<b>T1 meta-perceptions of PrEP Users by healthcare professionals → T3 Stress</b>			
Direct	-.01	-.05	.04
Total	-.01	-.05	.03
Indirect (T2)	-.00	-.00	.00
<b>T1 meta-perceptions of PrEP Users by healthcare professionals → T3 Stress</b>			
Direct	-.00	-.04	.04
Total	-.01	-.05	.04
Indirect (T3)	-.00	-.01	.01
<b>T1 meta-perceptions of PrEP Users by healthcare professionals → T3 Depression</b>			
Direct	-.02	-.05	.00
Total	-.02	-.04	.00
Indirect (T2)	.00	-.00	.00
<b>T1 meta-perceptions of PrEP Users by healthcare professionals → T3 Depression</b>			
Direct	-.02	-.04	.01
Total	-.02	-.05	.00
Indirect (T3)	-.00	-.00	.01
<b>T1 meta-perceptions of PrEP Users by healthcare professionals → T3 Anxiety</b>			
Direct	.01	-.01	.04
Total	.01	-.01	.04
Indirect (T2)	-.00	-.00	.00
<b>T1 meta-perceptions of PrEP Users by healthcare professionals → T3 Anxiety</b>			
Direct	.02	-.01	.04
Total	.01	-.01	.04
Indirect (T3)	-.00	-.00	.00

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 15**

Summary of Study 2b mediation analysis (H8.14, H8.15, H8.16).

Model	T2/T3 gbMSM Identification → T2/T3 Perceived Personal Control		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T1 Perceived Healthcare Discrimination of gbMSM → T2 Stress</b>			
T1 Perceived Healthcare Discrimination of gbMSM → T2 gbMSM Identification	.14	<b>.04</b>	<b>.25</b>
T2 gbMSM Identification → T2 Perceived Personal Control	.12	-.01	.26
T2 Perceived Personal Control → T2 Stress	-2.08	<b>-2.94</b>	<b>-1.22</b>
Direct	.27	-.22	.76
Total	.51	<b>.00</b>	<b>1.01</b>
Indirect (T2)	-.04	<b>-.11</b>	<b>-.00</b>
<b>T1 Perceived Healthcare Discrimination of gbMSM → T2 Loneliness</b>			
Direct	-.00	-.51	.51
Total	.26	-.29	.80
Indirect (T2)	-.05	-.14	.00
<b>T1 Perceived Healthcare Discrimination of gbMSM → T2 Depression</b>			
T1 Perceived Healthcare Discrimination of gbMSM → T2 gbMSM Identification	.13	<b>.03</b>	<b>.24</b>
T2 gbMSM Identification → T2 Perceived Personal Control	.13	<b>.00</b>	<b>.27</b>
T2 Perceived Personal Control → T2 Depression	-1.39	<b>-1.89</b>	<b>-.88</b>
Direct	.07	-.21	.35
Total	.16	-.14	.46
Indirect (T2)	-.02	<b>-.07</b>	<b>-.00</b>
<b>T1 Perceived Healthcare Discrimination of gbMSM → T2 Anxiety</b>			
T1 Perceived Healthcare Discrimination of gbMSM → T2 gbMSM Identification	.13	<b>.02</b>	<b>.24</b>
T2 gbMSM Identification → T2 Perceived Personal Control	.13	<b>.00</b>	<b>.27</b>
T2 Perceived Personal Control → T2 Anxiety	-1.31	<b>-1.83</b>	<b>-.80</b>
Direct	.13	-.16	.42
Total	.29	-.01	.59
Indirect (T2)	-.02	<b>-.06</b>	<b>-.00</b>
<b>T1 Perceived Healthcare Discrimination of gbMSM → T3 Stress</b>			
Direct	-.58	<b>-1.14</b>	<b>-.02</b>
Total	-.48	-1.02	.05
Indirect (T2)	-.00	-.04	.02
<b>T1 Perceived Healthcare Discrimination of gbMSM → T3 Stress</b>			
Direct	-.54	-1.11	.04
Total	-.58	<b>-1.14</b>	<b>-.02</b>
Indirect T3	.04	-.02	.12
<b>T1 Perceived Healthcare Discrimination of gbMSM → T3 Depression</b>			
Direct	-.18	-.50	.14
Total	-.20	-.51	.10
Indirect(T2)	.00	-.01	.02

**T1 Perceived Healthcare Discrimination of gbMSM → T3****Depression**

Direct	-.27	-.59	.06
Total	-.18	-.50	.14
Indirect (T3)	.03	-.01	.09

**T1 Perceived Healthcare Discrimination of gbMSM → T3****Anxiety**

Direct	-.54	<b>-.89</b>	<b>-.19</b>
Total	-.53	<b>-.86</b>	<b>-.20</b>
Indirect(T2)	-.01	-.03	.01

**T1 Perceived Healthcare Discrimination of gbMSM → T3****Anxiety**

Direct	-.55	<b>-.92</b>	<b>-.18</b>
Total	-.54	<b>-.89</b>	<b>-.19</b>
Indirect (T3)	.01	-.02	.03

**T1 Perceived Healthcare Discrimination of gbMSM → T3****Loneliness**

Direct	-.42	-.97	.14
Total	-.56	<b>-1.10</b>	<b>-.02</b>
Indirect(T2)	.00	-.02	.03

**T1 Perceived Healthcare Discrimination of gbMSM → T3****Loneliness**

Direct	-.23	-.77	.31
Total	-.42	-.97	.14
Indirect (T3)	.03	-.03	.12

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).

**Table 16**

*Summary of Study 2b mediation analysis (H8.17, H8.18, H8.19).*

Model	T2/T3 gbMSM Identification → T2/T3 Perceived Personal Control		
	<i>b</i>	<i>LLCI</i>	<i>ULCI</i>
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T2 Stress</b>			
Direct	-.15	-.68	.37
Total	.06	-.48	.61
Indirect (T2)	-.04	-.12	.00
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T2 Loneliness</b>			
Direct	-.01	-.56	.53
Total	.19	-.41	.78
Indirect (T2)	-.05	-.15	.00
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T2 Depression</b>			
Direct	-.25	-.54	.05
Total	-.18	-.50	.14

Indirect (T2)		-03	-08	.00
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T2 Anxiety</b>				
Direct		-08	-39	.23
Total		.07	-.26	.40
Indirect (T2)		-.02	-.08	.00
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T3 Stress</b>				
Direct		-.55	-1.13	.03
Total		-.45	-1.01	.10
Indirect (T2)		-.00	-.04	.02
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T3 Stress</b>				
Direct		-.51	-1.07	.75
Total		-.55	-1.13	.03
Indirect (T3)		.02	-.01	.07
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T3 Loneliness</b>				
Direct		-.13	-.71	.45
Total		-.30	-.87	.26
Indirect (T2)		.00	-.02	.03
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T3 Loneliness</b>				
Direct		-.03	-.56	.50
Total		-.13	-.71	.45
Indirect (T3)		.02	-.02	.07
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T3 Depression</b>				
Direct		.07	-.27	.41
Total		.03	-.30	.36
Indirect (T2)		.00	-.01	.02
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T3 Depression</b>				
Direct		.03	-.30	.36
Total		.07	-.27	.41
Indirect (T3)		.01	-.01	.05
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T3 Anxiety</b>				
Direct		-.24	-.61	.13
Total		-.25	-.61	.11
Indirect (T2)		-.01	-.03	.01
<b>T1 Perceived Healthcare Discrimination of PrEP Usage → T3 Anxiety</b>				
Direct		-.22	-.60	.15
Total		-.24	-.61	.13
Indirect (T3)		.00	-.01	.02

Note: bolded numbers indicate significance (LLCI/ULCI does not pass through 0).