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Identity development, attraction, and behaviour of heterosexually-identified men who have sex
with men: A scoping review

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Abstract

Heterosexually identified men who have sex with men (H-MSM) experience discordance between their sexual identity and behaviours. Studies with large, mixed samples suggest that H-MSM may comprise 4-7% of the sexually active adult male population. Understanding and accepting H-MSM as they self-identify may be necessary to implement effective public health and psychosocial interventions. There is no known knowledge synthesis of H-MSM. This scoping review synthesizes primary studies about H-MSM identity development, attraction, and behaviour. Thirteen databases were searched, and two independent reviewers screened 3,617 titles and abstracts and 269 full-texts to arrive at 120 articles meeting inclusion criteria. Ten independent reviewers then conducted thematic content analysis. H-MSM either expressed sexual identity uncertainty, or justified maintaining heterosexual identity, due to fear of discrimination and little or no social support. H-MSM compartmentalized same-sex sexual behaviours as isolated events unrepresentative of their sexual identity. H-MSM further minimized these behaviours to infrequent, recreational/sport, or economic coincidences with little partner communication regarding HIV and sexual health. Many H-MSM also depersonalized male sex partners, denied same-sex attraction, and avoided gay-identified venues. Reviewed articles further reported H-MSM had negative emotional responses to sex with men (e.g., guilt, shame, disgust). Findings also suggest H-MSM are mislabeled in sexual health screening. H-MSM are unlike other heterosexual men and other MSM, and require unique considerations and approaches to sexual and mental health care.

Keywords

Heterosexual men who have sex with men; Scoping review; Sexual identity-behaviour discordance

Background

Sexuality is multidimensional and complex; key components include identity, attraction, and behaviour (Lehmiller, 2017; Savin-Williams, 2014). Sexual identity relates to social group status, develops in relation to an individual's environment, and can change over time and in different contexts (Bussey, 2011). Further, sexual identity or orientation refers to the label one uses to define their sexuality (e.g., straight, gay). Sexual attraction is defined by desires for sexual intimacy toward an individual and/or a group of people (Regan and Bersched, 1996). Attraction is a pathway to identity, whereby an individual's desires towards people both known (e.g., friends) and unknown (e.g., celebrities) to an individual form the basis for their orientation within context (Pratt, 1998). Sexual behaviours are the sexual practices an individual engages in, which includes sexual activity with others and with oneself (Meston and Buss, 2007). For many people, these three components can be concordant with each other (e.g., a cisgender man identifies as gay, is attracted to other men, and has sex with other men). However, some individuals experience discordance between their identities, attractions, and behaviours (e.g., a cisgender man identifies as straight, is attracted to men and women, and has sex with men). Heterosexual or straight men are concordant in this context if their attractions and behaviours align with heterosexuality. Yet, studies have shown some heterosexual men are attracted to and engage in sex with other men (e.g., Reynolds, 2015; Silva and Whaley, 2017).

Mendelsohn et al. (2022) recently found 0.6% ($n=315$) of sexually active adult men and 0.4% of sexually active adult women ($n=335$) studied in California experience discordance between their sexual identity and sexual behaviours. The authors argue that the population estimate for those experiencing sexual identity-behaviour discordance is likely higher. Indeed, other scholars determine approximately 94% of U.S. adults experience concordance between

their sexual identity and sexual attractions and about 96% experience concordance between their sexual identity and sexual behaviours in the past year (Fu et al., 2019). Thus, at least 4% of adults may experience some type of discordance between their sexual identity, attractions, and behaviours. Other studies find the proportion of those experiencing discordance may be even higher, with an upper limit 7.4% of the United States' (US) sexually active adult population (Silva and Whaley, 2017).

Throughout the 21st century, researchers, policymakers, and healthcare professionals have taken an interest in examining the experiences of this population, with the consensus term emerging of heterosexually identified men who have sex with men (H-MSM) (Persson et al., 2017; Reback and Larkins, 2010; White and Gliberman, 2014). Despite a growing interest in the sexuality field, a systematic or scoping review of empirical H-MSM studies does not yet exist. A review could improve understanding of and destigmatize sexual identity-behaviour discordance amongst men and offer research and practice implications, especially related to public health and male sexuality. Thus, the purpose of this scoping review was to collate and assess empirical research on H-MSM. H-MSM may be distinct from concordant men due to implications of *sustained discordance* and health disparities.

Sustained Discordance

There can be confusion related to the identity of H-MSM. The incongruity between their sexual identity and behaviours leads many to believe they are closeted gay, bisexual, or queer (GBQ+) men (Carrillo and Hoffman, 2018; Reynolds, 2015; Robinson and Vidal-Ortiz, 2013). However, individuals experiencing *situational outness* are distinct from those experiencing *sustained discordance*. Situational outness is defined as a person choosing when to disclose their identity or sexual encounters based on perceived safety and/or perceived benefit (Sabat et al.,

2014). Sustained discordance is demonstrated through, for example, H-MSM maintaining their heterosexual identity in a global context regardless of sexual attraction and behaviour. In other words, with sustained discordance, regardless of the social circle, H-MSM consistently maintain their heterosexual identities. H-MSM provide reasoning for such sustained discordance, stating that their sexual encounters with men are infrequent, accidental, recreational, unnecessary, and/or a necessity for monetary reasons (Reback and Larkins, 2010).

However, there is a distinction between hidden GBQ+ men and H-MSM. Goethe et al. (2018), for instance, find differences between what they label “hidden homosexuals” and heterosexuals who had a “sexual experience with a man” (p. 284). Specifically, “hidden homosexuals” are men who identify as homosexual but only have recent and lifetime sexual experiences with women and not men. Meanwhile, H-MSM are characterized as the 1.6% of men who identify as heterosexual but still have at least one lifetime sexual experience with another man (Goethe et al., 2018). Nevertheless, H-MSM are often secretive about their same-sex encounters (Silva, 2018). Thus, situational outness and sustained discordance are key terms to differentiate and explore regarding H-MSM’s identity development. Regardless of their reasons for identifying as heterosexual yet engaging in sexual behaviours with other men, it is important for practitioners and researchers to understand this population as they identify. Acceptance and affirmation of heteroflexibilities, or straight-identified people choosing to include same-sex desires within their identity of heterosexuality (Carrillo, 2022), is critical towards HIV prevention and health promotion (Carrillo and Hoffman, 2016).

Health Disparities

Mental and sexual health disparities are identified between H-MSM and both heterosexual men and MSM (Mendelsohn et al., 2022; Scott et al., 2016). H-MSM report

increased rates of depressive symptoms compared to men who identify as heterosexual (Mendelsohn et al., 2022). Further, greater concealment of sexual behaviour correlates with more depressive symptoms, more anxious symptoms, and lower levels of positive affect (Schrimshaw et al., 2013). Annor and colleagues (2018) find that high school students who displayed sexual identity-behaviour discordance were 70% more likely to experience suicidal ideation or attempt suicide than their concordant peers.

For sexual health disparities, there are reports indicating that H-MSM are less likely than concordant gay men to use condoms and be tested for HIV (Pathela et al., 2006). Abdallah et al. (2018) further support this finding, indicating that H-MSM tend to engage in behaviours associated with high risk of HIV transmission. This risk behaviour is argued to relate to adverse childhood experiences connected to homophobia, religious upbringing, conservatism, and conversion therapy—which may explain why some H-MSM are reluctant to identify as non-heterosexual (Parent and Wille, 2021; Reback and Larkins, 2010; Silva, 2019; Silva and Whaley, 2017; Ward, 2015).

The Current Study

This scoping review identifies themes, research gaps, and future directions regarding the identities, attractions, and behaviours of H-MSM. While interest in conducting research with H-MSM has grown since 2000, they remain a poorly understood population. A collation of the literature regarding the identity development, attractions, and behaviours of H-MSM may help researchers and practitioners develop a stronger understanding of this population, which is needed to effectively engage them in holistic health promotion efforts and address health disparities.

Methods

This scoping review focuses on determining what is known about the identity development, attraction, and behaviours of H-MSM. The procedures were based on Arksey and O'Malley's (2005) framework and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). A more detailed description of the methods can be found in the protocol (Authors, in press).

Search Procedure

A search for relevant literature published from January 1, 2000 onwards was conducted using the electronic databases EBSCO Academic Search Complete, OVID APA PsychInfo, CINAHL Plus with Full Text, Education Research Complete, Gender Studies Database, GenderWatch, Health Source: Nursing/Academic Edition, LGBTQ+ Source, OVID MEDLINE, Psychology and Behavioral Sciences Collection, SocINDEX with Full Text, Sociological Collection, and Social Work Abstracts. The search was conducted between July 19, 2022 and August 7, 2022 using a combination of keywords and, where appropriate, controlled vocabulary to describe the concepts of “heterosexual men who have sex with men,” “straight men who have sex with men,” and “sexual identity-behaviour discordance.”

Inclusion Criteria

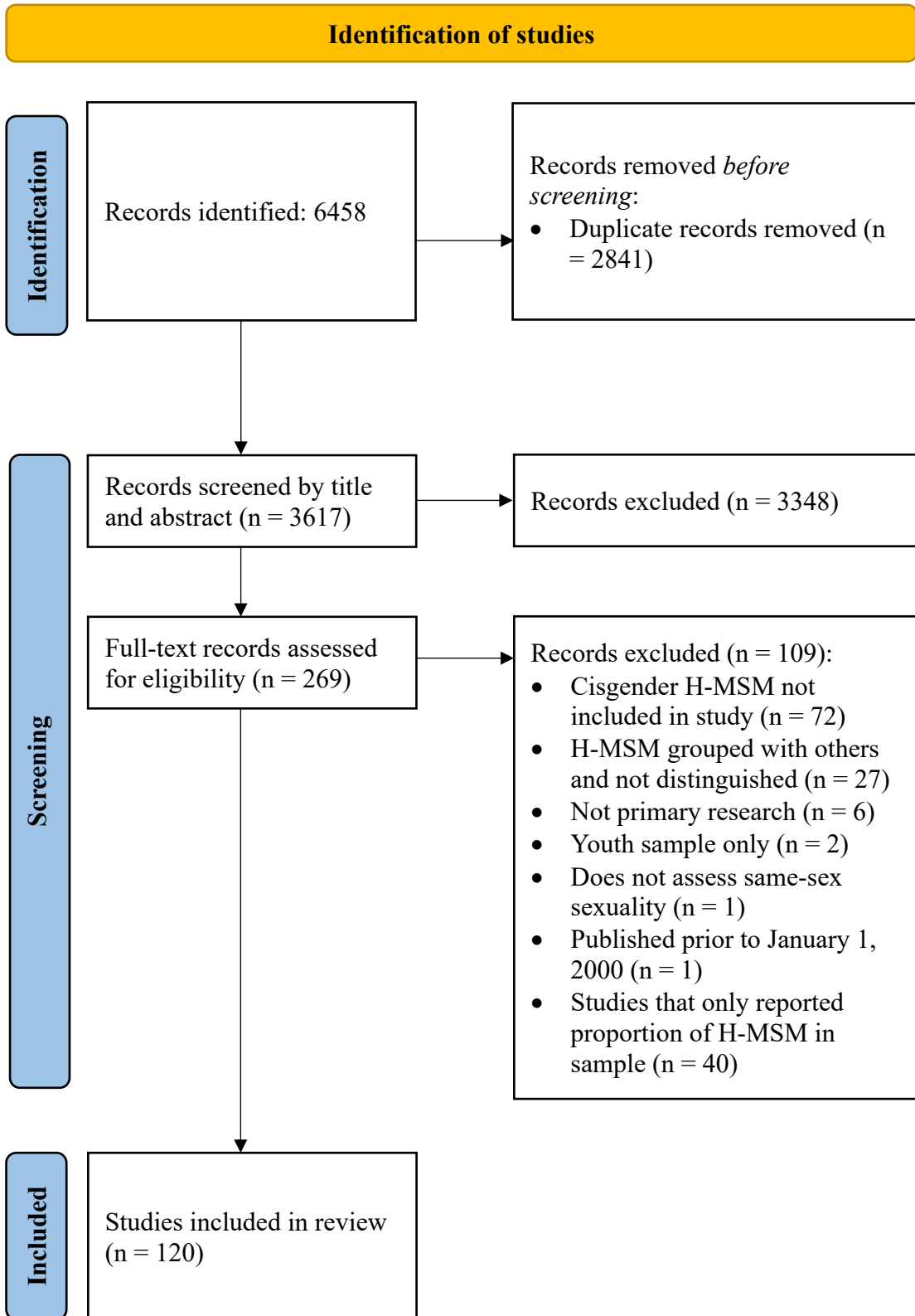
Because H-MSM are an understudied population, broad inclusion criteria are applied—which also enhances the comprehensiveness of the review. Included studies are: (1) empirical research on heterosexual men who report at least one lifetime sexual encounter with other men; (2) published on or after January 1, 2000; and (3) available in English.

Screening

Figure 1 depicts the process of identifying and screening relevant records for inclusion. The initial search yielded 6,458 records, including 2,841 duplicates. After duplicate removal, the first two authors screened the titles and abstracts of the remaining 3,617 articles, which resulted in the exclusion of 3,348 records. The primary reason for exclusion at this stage was that many articles compared heterosexual men with GBQ+ men, yet did not examine H-MSM. The same authors then screened the full texts of the 269 articles that passed the title and abstract screening, which resulted in a further 109 articles being excluded. Then, 40 articles that solely reported on the proportion of H-MSM within the sample were excluded as these papers did not present findings on the identity development, attraction, or behaviour of H-MSM. This resulted in a final selection of 120 articles, which were subject to thematic content analysis reported here.

Figure 1

PRISMA Flow Diagram of Study Selection



Data Extraction and Analysis

Research assistants extracted data from the articles by documenting details about the publication (e.g., authors, year of publication, funding source), sample (e.g., study population and sample size), methods (including the recruitment strategy), outcomes, limitations, and future directions. Thematic content analysis was then performed by ten independent reviewers (researchers, practitioners, and people with lived experience) on the 120 articles (Braun and Clarke, 2006; Hsieh and Shannon, 2005; Thomas and Harden, 2008). Each reviewer analyzed a subset of articles to create descriptive codes (i.e., labels to generally summarize the results) and in vivo codes (i.e., labels using a word or short phrase from the results). All reviewers emailed their findings to the first two authors, and then all met to discuss their independent reviews, which allowed themes and subthemes to begin emerging. The second author then conducted focused coding of the data to organize and consolidate independent reviews into a draft of the results. All reviewers had two weeks to review this draft and provide feedback. The final results were approved by all reviewers.

Quality

The Mixed Methods Appraisal Tool (MMAT) Version 2018 (Hong et al., 2018) was used to assess the quality of evidence and risk of bias in the included studies. Each article was assessed using seven criteria based on the study design (qualitative, quantitative randomized control trial, quantitative non-randomized, quantitative descriptive, or mixed methods). The first two items were the same for every article (“Are there clear research questions?” and “Do the collected data allow to address the research questions?”). The remaining five items were based on the specific study design. Each item was dummy-coded where the article was given a 1 if the response to the criteria was a “Yes” or a 0 if the response was a “No” or “Can’t Tell.”

The protocol (Authors, in press) originally reported that two reviewers would independently assign ratings to each included article on a range of 25% (low quality articles) to 100% (high quality articles). However, only one reviewer performed this task. The second reviewer cross-checked their work, including changing “can’t tell” to “yes” or “no” where applicable. These two reviewers met biweekly over a three-month period to check the ratings and settle disputes. In addition, articles were given ratings from 0% (low quality) to 100% (high quality) in 20-percentage point increments as five unique items were used for each study design.

Results

There were 120 articles included in this scoping review. The majority of studies utilized a quantitative descriptive design ($n = 79$, 65.83%). Other studies adopted a qualitative design ($n = 35$, 29.17%). Few studies used mixed methods ($n = 5$, 4.17%). One study (.83%) used an intervention design. Zero studies were randomized, controlled trials.

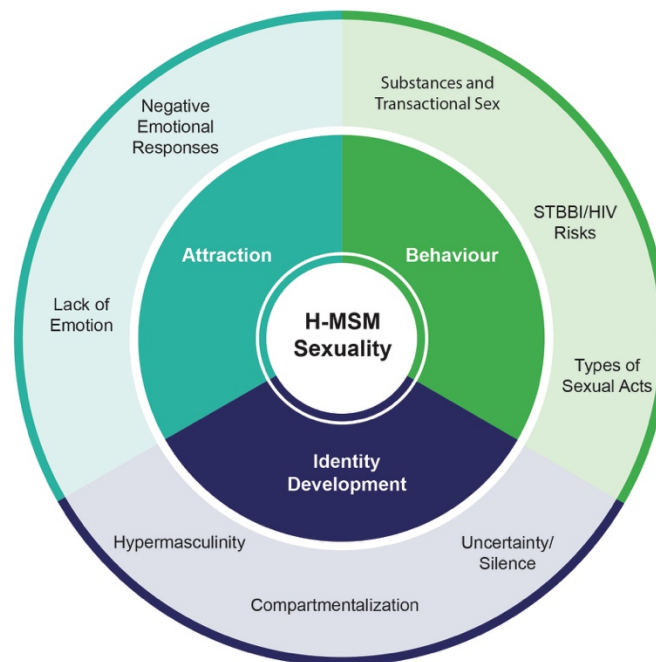
The MMAT was used to appraise the quality of evidence of each article. Most studies were given a score of at least 60% ($n = 114$). More specifically, 46 studies were scored 100%, 48 studies were given a score of 80%, 20 studies were scored 60%, 5 studies were given a score of 40%, 1 study scored of 20%, and 0 studies scored of 0%. Out of the 79 quantitative descriptive studies, 18 scored 100%, 40 scored 80%, 18 scored 60% and three scored 40%. Qualitative studies were mostly appraised at 100% ($n = 27$). Five qualitative studies were appraised at 80%. The other three studies were appraised at 60%, 40%, and 20%, respectively. One mixed methods study received 100% and two others received 80%, one received 60%, and one received 40%. Finally, the intervention study was appraised at 80%.

Themes were organized into a priori categories based upon the three constructs: Identity Development, Attraction, and Behaviour. Under identity development, themes included

hypermasculinity, uncertainty/silence, and compartmentalization. Themes related to attraction included lack of emotion with men and negative emotional responses. Behaviour-related themes consisted of sexually transmitted and blood borne infections (STBBI)/HIV risks, substance use and transactional sex, and types of sexual acts. See Figure 2 for a model of these findings.

Figure 2

Model of H-MSM Sexuality



Identity Development

Identity development consists of three themes: hypermasculinity, uncertainty/silence, and compartmentalization.

Hypermasculinity

Twenty-nine articles discuss the roles of hypermasculinity and internalized homophobia. Findings from 28 of the 29 articles suggest there is a high prevalence of hypermasculinity and internalized homophobia among H-MSM. Social norms around gender, for instance, are rooted in masculinity and discourage men from identifying as non-heterosexual (Perez-Brumer et al.,

2019). Accordingly, H-MSM tend to reject gay culture and have high degrees of hypermasculinity/machismo and internalized homophobia (Dillon et al., 2019; Phillips et al., 2020; Rutledge et al., 2018; Shoptaw et al., 2009; Silva, 2017). Conversely, Silva (2018, 2022) report most sampled H-MSM (56.09% and 62.88%, respectively) display low overt homophobia and conservative masculinity. Nevertheless, a considerable proportion of the participants have moderate or high levels of overt homophobia and/or conservative masculinity. Silva and Fetner (2022) also found that most H-MSM are moderately supportive of LGBTQ+ rights; though, religiosity and homophobia remain associated with identity-behaviour discordance.

Vrangalova and Savin-Williams (2012) argue some degree of discordance is due to stigma toward male same-sex sexuality, resulting in H-MSM maintaining heterosexual identities. Indeed, Duffin (2016) shows that H-MSM equate identifying as gay with being weak and vulnerable and that they associate bisexuality with confusion and pedophilia (Duffin, 2016). Two studies find that H-MSM believe they could not obtain happiness or emotional security if they did not have children (Silva and Whaley, 2018; Williams et al., 2004), indicating some H-MSM may be maintaining heterosexual identities to comply with traditional norms around constructing families. Three other studies highlight how H-MSM uphold hypermasculine personas to avoid being perceived as gay within their Black and Latino communities (Miller et al., 2005; Phillips et al., 2020; Shoptaw et al., 2009). Two studies add that disclosing same-sex sexuality would harm their reputations, especially within their culture and religion (Benoit and Koken, 2012; Schrimshaw et al., 2018). Cardoso (2009), though, concludes H-MSM fisherman in Brazil are not concerned about how disclosure of same-sex behaviours could affect their reputations as macho heterosexual men. Relatedly, three studies suggest some H-MSM do not view homosexuality

negatively, but they have negative attitudes towards feminine men and transgender individuals (Anderson, 2008; Cardoso, 2002, 2009).

Maintaining a hypermasculine persona and heterosexual identity may be harming the mental health and well-being of H-MSM. Carrillo and Hoffman (2016) state some participants experience stress from the societal pressures to be masculine and that allowing another man to be in charge of them during sex relieved some stress. Schrimshaw et al. (2013) similarly denote that concealment of same-sex sexuality is associated with heterosexual identification and internalized homophobia. In turn, internalized homophobia predicts heightened depressive and anxiety symptoms.

Uncertainty/Silence

Many HMSM experience uncertainty, largely related to fear of discrimination, stigma, and lack of social support. Dillon et al. (2019), for instance, finds H-MSM have high sexual identity uncertainty. This could be due to a lack of understanding of sexuality as reported in two studies. Duffin (2016) finds participants believed attraction was a dichotomy and bisexuality equated to sexual confusion. In another study, many men indicate they never had to define their sexuality until being interviewed for the study (Carrillo and Hoffman, 2016). These authors argue participants may have adopted flexible definitions of heterosexuality, in part, due to lack of understanding about heterosexuality and other sexual identities (Carrillo and Hoffman, 2016). Relatedly, the majority of H-MSM are at lower stages of homosexual identity acceptance, especially if they are still married to women (Malcolm, 2008).

Findings also show straight identification and concealment about same-sex behaviours among MSM and men who have sex with men and women (MSMW) is associated with political conservatism, marriage, high school or below education, full-time employment, living with a

female partner, and frequent sex with women (Schrimshaw et al., 2013; Silva, 2017). MSMW are also more likely to identify as heterosexual than gay (Mayer et al., 2021), but are most likely to identify as bisexual (Reilly et al., 2016). Scholars also find anywhere from 24-63% of H-MSM never tell others about their same-sex attractions and behaviours (Schrimshaw et al., 2013, 2018; Zule et al., 2009). Schrimshaw et al. (2018) finds H-MSM have various reasons for not disclosing their same-sex behaviours, such as concerns related to negative emotional reactions and relationship changes (e.g., being disowned), prior negative experiences with disclosure, fear that someone will tell others, and cultural and religious rejection. Schrimshaw et al. (2013) also reports that greater concealment is related to higher levels of depressive and anxiety symptoms and lower positive affect.

Compartmentalization

According to four studies, some H-MSM compartmentalize sexual behaviours as unrelated to and not representative of their sexual identity (Operario et al., 2008). Reback and Larkins (2010), for example, find H-MSM describe their same-sex behaviours as unrelated to their heterosexuality because such experiences are infrequent and sometimes accidental and serve recreational and/or economic purposes. That is, substance use is often involved, leading many to dismiss same-sex behaviours as uncharacteristic of their sober selves. For others, same-sex behaviours are viewed as ‘sport’—something that is fun but does not require intimacy—which allows them to avoid adopting non-heterosexual identities. Many others engage in transactional sex with other men to exchange substances and/or money. Both substance use and transactional sex are further described under the *Behaviours* category.

Attraction

Two themes emerge under attraction: lack of emotion and negative emotional responses. Notably, attraction is the smallest category as few reports examine attraction among H-MSM.

Lack of Emotion

H-MSM experience different types of attraction toward men compared to women. Eight studies, for instance, indicate H-MSM experience no romantic attraction to men (e.g., Martinez and Hosek, 2005; Silva, 2017). Men in these studies only experience romantic attraction with women and use sex with men as a form of stress relief. Relatedly, Harawa et al. (2008) mentions some participants preferred male over female sexual partners when they were intoxicated because sex with other males required less emotional commitment. Morandini et al. (2019) finds the visual attention of mostly heterosexual men is fixated more heavily on sexually explicit features (i.e., genitals) rather than on other areas of the body (e.g., face, chest) due to increased sexual attraction. Other H-MSM deny any attraction to men (Duffin, 2016) or emphasize they are primarily attracted to women—not men (Carrillo and Hoffman, 2016)—allowing them to maintain their heterosexual identity. Overall, H-MSM's attraction toward other men is primarily sexual.

Notably, three studies report on the types of men that H-MSM were attracted to when they do acknowledge they are attracted to other men. Findings reveal the types of men H-MSM are attracted to may vary. Fontdevila (2020), for example, concludes participants desire masculine cisgender men. Meanwhile, other H-MSM report same-sex attractions and behaviours by being attracted to feminine men (Siegel and Meunier, 2019) and transgender women (Duffin, 2016), occasionally justifying their identity-behaviour discordance through these attractions.

Negative Emotional Responses

Findings from seven studies suggest H-MSM experience negative emotional responses following sexual encounters with other men. In particular, many H-MSM feel shame about their same-sex behaviours (e.g., Miller, 2008). Reback and Larkins (2010) report H-MSM feel shameful, guilty, disgusted, and unclean after having sex with other men. According to participants, these negative feelings suggest H-MSM cannot be LGBTQ+ as if positive emotional responses would indicate an individual may be LGBTQ+ (Reback and Larkins, 2010). In addition, feelings of shame and guilt are associated with greater anxiety and depression (Mendelsohn et al., 2022) and likelihood of engaging in transactional sex or having a history of substance abuse (Senreich, 2015).

Behaviours

Behaviours is the largest category and consists of three themes: STBBI/HIV risks, substance use and transactional sex, and types of sexual acts.

STBBI/HIV Risks

Forty-four studies included findings relate to behavioural risks, testing, stigma, treatment, and health services/help seeking. These studies mostly show H-MSM have elevated risks for HIV and other sexually transmitted and blood borne infections (STBBIs) in comparison to heterosexual or other MSM. Three studies, though, find H-MSM are less likely than other heterosexual men or MSM to report being diagnosed with HIV (Everett, 2013; Mendoza et al., 2015; Pathela et al., 2006). One other study found H-MSM are not significantly more likely to test positive for HIV despite having significantly higher odds of engaging in condomless sex (Baytop et al., 2014). However, these lower odds of reporting past or current STBBIs/HIV may be related to lack of testing. Indeed, six studies conclude H-MSM have low rates of HIV testing

(Margolis et al., 2012; McCree et al., 2016). In fact, one study of Black MSM in Washington, DC finds 82% of participants who had never tested for HIV were heterosexual and 19% of the full sample identified as heterosexual (McCree et al., 2016). Another study of MSM in the United Kingdom shows 83% of H-MSM have not been tested for HIV in the past 12 months and 70% never received an HIV test result (Witzel et al., 2016). Perhaps related to the lack of testing, Lert et al. (2010) and MacCarthy et al. (2014) find H-MSM have higher odds of delayed diagnosis and treatment for HIV compared to other MSM.

H-MSM report several reasons for not testing, including thinking they did not have HIV; fearing being diagnosed with HIV, being outed to others, and/or being deported; not knowing where to get tested; not having the time or resources; and not believing they did anything to contract HIV (Boyce et al., 2012; Margolis et al., 2012; Wirtz et al., 2014). Importantly, men who had never tested before preferred self-administered testing, genitourinary medicine clinics, and testing in general practice (Witzel et al., 2016). H-MSM also often prefer free, public health clinics as they provide greater anonymity and allow them to blend in without bringing attention to their same-sex sexual behaviours (Boyce et al., 2012). These services may be especially important as H-MSM are less likely than gay and bisexual men to have a primary healthcare provider (Merighi et al., 2011) and less likely than gay men to disclose their same-sex sexual behaviours to providers (Stults et al., 2020). A lack of knowledge of HIV may also pose a barrier to testing and prevention. Ortiz-Sánchez et al. (2017) and Tang et al. (2014) each report H-MSM lack adequate knowledge of HIV.

Pre-exposure prophylaxis (PrEP) use is another preventative tool against HIV. However, only one study examines PrEP use, finding H-MSM were significantly less willing to use PrEP than gay MSM (Lim et al., 2017). Condom use is also important to prevent HIV and other

STBBIs. Findings are mixed on whether H-MSM have lower or higher condom use than other MSM. Four studies report H-MSM have lower condom use than other MSM (Denning and Campsmith, 2005; Rutledge et al., 2018). Zellner et al. (2009) similarly report that 91.7% of H-MSM who engage in sex with female and male partners during the past 60 days did not use condoms and only 21% of H-MSM, compared to 53.1% of gay MSM, were carrying condoms at the time of the survey. McCree et al. (2016) also acknowledge those who had never tested for HIV are more likely to be heterosexual and less likely to use condoms with male partners. Meanwhile, two studies found H-MSM have less condomless episodes than gay, bisexual, and other MSM (Carballo-Diéguez et al., 2011; Joseph et al., 2018). Another four studies found no significant differences in condomless anal intercourse between H-MSM and other MSM (Ayer et al., 2021; Bond et al., 2009). Additionally, eight studies show H-MSM are more likely to use condoms with male partners than female partners (Martinez and Hosek, 2005). Shen et al. (2016) suggested social and cultural norms around married life create expectations for men to engage in condomless sex with their wives, which may help explain the different rates of condom use with male and female partners. Further, Rosenberger et al. (2012) and Williams et al. (2004) report that location, physical urges, and religious beliefs impact condom use. Condoms are not always readily available in venues for anonymous sex, cars, parks, and other locations where H-MSM engage in sex. Condoms are more readily available when H-MSM engage in sex in a hotel or at a partner's home. Miller et al (2005) add that substance use can make H-MSM incapable of discussing condom use.

Moreover, HIV stigma impacts how H-MSM engage in preventative measures and treatment. Philibin et al. (2018), for example, note H-MSM often delayed treatment of HIV and other STBBIs due to fear of discrimination and stigma. HIV-related stigma and associating HIV

with identifying as gay or bisexual also prevented many H-MSM from getting tested (Boyce et al., 2012; Williams et al., 2004). Stigma about HIV also may affect disclosure of HIV. Reback et al. (2015) find some H-MSM refuse to disclose their HIV serostatus to female sexual partners. The authors also share that those H-MSM who did disclose having HIV did so in ways to protect their heterosexual identity. Alternatively, Ayer et al. (2021) find H-MSM were more likely than gay or bisexual men to communicate about HIV. Relatedly, HIV programming is often geared toward gay and bisexual and younger MSM and not heterosexual and/or older MSM (Martinez-Donate et al., 2010; Philibin et al., 2018).

Substance Use and Transactional Sex

Substance use and/or transactional sex among H-MSM is discussed in 27 studies. Among these articles, 11 examine substance use, 10 examine transactional sex, and six examine both substance use and transactional sex. Generally, results show H-MSM often use various substances (Reback and Larkins, 2010). However, research on substance use disparities between H-MSM and other heterosexual men and MSM is mixed. Findings from five studies suggest H-MSM have elevated levels of recent substance use and substance use during sex compared to other heterosexual men and MSM (Dillon et al., 2019; Zellner et al., 2009). Deren et al. (2001) also argue that H-MSM have larger drug networks than other MSM. In addition, Brewer et al. (2014) find Black H-MSM are more likely than other Black MSM to have a history of incarceration and incarceration history was associated with drug and alcohol use in the last six months. Results from three other studies, though, indicate H-MSM may abuse substances less than others. First, Lert et al. (2010) find HIV+ H-MSM were less likely to use poppers or cocaine but more likely to smoke tobacco compared to other HIV+ MSM. The authors found no significant differences in heavy alcohol use. Second, McCabe et al. (2019) similarly found that

past-year prevalence of alcohol use disorder did not differ significantly between H-MSM and other heterosexual men without same-sex attraction. Notably, though, H-MSM have a lower prevalence of alcohol use disorder than gay, bisexual, and men who are unsure of their identity. Third, Gattis et al. (2012) find H-MSM have lower rates of alcohol dependence than other heterosexual or gay men. Gattis et al. (2012) also share H-MSM have higher usage rates of depressants, stimulants, cannabis, hallucinogens, and inhalants than other heterosexual men but lower usage rates than gay men.

Results from four studies reveal H-MSM use substances to lower inhibitions and make them more comfortable engaging in sex with another man (Benoit and Koken, 2012; Operario et al., 2008). According to Harawa et al. (2008), drug use not only increases comfort with engaging in sex with other men, but drugs also help Black H-MSM cope with their same-sex behaviours. That is, some H-MSM may use intoxication from drugs to excuse their same-sex behaviours and maintain their heterosexual identity. Harawa et al. (2008) also mentioned that drugs and alcohol are often located in many areas where Black H-MSM and other non-gay-identified Black MSM pick up other men for sex.

Moreover, every article mentioning transactional sex acknowledged that many H-MSM have sex with other men to obtain drugs and/or money (Fernández-Dávila et al., 2008; Finlinson et al., 2006). Similarly, many H-MSM engage in survival sex where they have sex with another man as a means towards obtaining food, money, clothes, and/or shelter (Fontdevila, 2020; Wirtz et al., 2014). In fact, H-MSM have increased odds of engaging in transactional sex (Boyce et al., 2012) and transactional sex is the most common HIV risk behaviour among H-MSM (Abdallah et al., 2020). In addition, transactional sex is associated with crack and injection drug use (Newman et al., 2004) and shame, guilt, and a need for secrecy (Senreich, 2015). H-MSM sex

workers also are less knowledgeable of HIV, report more unprotected vaginal sex, and experience symptoms of STBBIs (Tang et al., 2014).

Types of Sexual Acts

Finally, 22 studies explore the types of sexual acts performed by H-MSM. Twelve studies report on the position or role H-MSM take during sex with other men. Nine of these articles find H-MSM only accept roles as the insertive partner during anal intercourse (Duffin, 2016; Cardoso, 2009). This likely relates to cultural beliefs about sexuality and gender roles. Indeed, many studies highlight how certain cultures and communities (e.g., South and East Asians, Turkish, Latino, and Black cultures and communities) associate an insertive role with manhood and masculinity (Cardoso, 2009; Clark et al., 2013; Huysamen, 2018). Thus, H-MSM often insist they can maintain their manhood and identity as heterosexual as long as they are the insertive partner and not the receiving partner during anal intercourse with other men (Duffin, 2016). Relatedly, some H-MSM avoid kissing (Li et al., 2010) or anal sex (Carrillo and Hoffman, 2016) to maintain their heterosexual identities.

Another unique aspect of sex with men related to discretion. Six studies explicitly reported discretion was valued among H-MSM. Silva (2017) found H-MSM prefer regular and discrete partners with no strings attached versus one-night stands. One study mentions discretion is arousing and exciting for H-MSM (Carrillo and Hoffman, 2016). Similarly, another study mentioned that young H-MSM enjoy Internet cruising because it is erotic and promises greater anonymity over public venues (Robinson and Moskowitz, 2013). Meanwhile, two studies shared that discretion is important to avoid others learning about their same-sex behaviours (Schrimshaw et al., 2018; Williams et al., 2004). Findings from one other study simply stated H-MSM prefer discretion because sex is a personal and private topic (Schrimshaw et al., 2014).

Four other studies describe the type of sex H-MSM enjoy with men versus with women. Results indicate H-MSM perceive male partners as sexually adventurous and have rougher and more aggressive sex with them compared to female partners (Fernández-Dávila et al., 2008; Fontdevila, 2020; Siegel and Meunier, 2019). In addition, H-MSM report that male partners are more capable of pleasing them than female partners (Fontdevila, 2020; Siegel and Meunier, 2019). Sex with men is viewed by H-MSM as a way to feel free and achieve sexual relief (Fernández-Dávila et al., 2008; Fontdevila, 2020; Martinez and Hosek, 2005) while sex with women is viewed as morally superior (Fontdevila, 2020). In three other studies, H-MSM recognize that other men are more readily available for sex and securing a sexual relationship is easier with men than with women (Fernández-Dávila et al., 2008; Martinez and Hosek, 2005; Reback et al., 2019). Additionally, findings from three studies suggest H-MSM sometimes engage in opportune or situational sex with other men. That is, H-MSM had sex with other men because the opportunity was available and other options were limited in their given situation. For instance, Muñoz-Laboy (2004) show H-MSM engage in opportunity sex with other men while in prison for drug-related offenses. Finally, two studies report that H-MSM may have sex with other men because female partners wanted them to have a threesome with another man (Carrillo and Hoffman, 2016; Thompson et al., 2022).

Discussion

As the first known knowledge synthesis of H-MSM and with ten independent coders, this review offers novel, comprehensive insight into studies of the identity development, attraction, and behaviour of H-MSM. The resulting model (Figure 2) highlights the complexity of the population. Although a comparatively small population when compared to concordant heterosexual and GBQ+ men, there is considerable variability of identities and experiences

amongst H-MSM. Ethnicity, religiosity, and political ideology are the key demographics (other than sexual orientation and behaviour) under study and comparison in these articles. This synthesis highlights some the main issues that H-MSM may face and calls for further research to examine these intricate dimensions of sexuality. In practice, accepting these individuals' identity as heterosexual and acknowledging heterosexuality can have flexibilities are important to effectively engage with this population and promote healthy behaviours, as H-MSM currently have little options for client centered care based on honesty about their identity and potential health risk behaviours (Carrillo and Hoffman, 2016).

Dimensions of Sexuality

Among the three main constructs explored in this scoping review, behaviour has the most evidence followed by identity development with attraction in a distant third. As the included reports are primarily in the fields of public health and psychology, behaviour may understandably be a priority focus (Holt-Lunstad et al., 2017). However, lack of attention to identity development and attraction may imply that the reasons behind H-MSM's behaviour remain understudied. Without a fulsome understanding of the internal pathway to behaviour, interventions may only be able to offer surface-level support (e.g., prophylactic) without addressing the root causes of behaviour (Paina and Peters, 2012).

Rates of STBBI and HIV testing are low amongst H-MSM when compared to their concordant heterosexual and GBQ+ peers. Further, many jurisdictions are reporting multi-year trends of unchanging rates of STBBI and HIV testing (Koester et al, 2018), suggesting that the same groups of people may be getting tested year-over-year and other groups may not as readily avail themselves of sexual health screening (Koester et al, 2018). Given the reviewed studies' successes in recruiting H-MSM by advertising specifically for the population (Reback et al.,

2019), a targeted testing campaign centered on H-MSM may be a potential direction for future research.

The Importance of Terminology

Labelling sexuality has long been a controversial and contentious process, with frequent debate and constant evolution of terminology (Moleiro and Nuno, 2017). The language used to describe a person's sexuality and sexual behaviour is particularly fraught when issues such as discordance and concealment are present (Shapiro and Ray, 2007). Nonetheless, this review identifies terminology in the extant literature that complicated screening and synthesis and could inhibit research impacts for H-MSM. During screening, hundreds of articles referred to participants as 'behaviourally bisexual'. Through full-text review, the screeners identified that this was a term used by researchers when male respondents were either: a) self-identifying as heterosexual, bisexual, or gay and reporting sex with both men and women (e.g., Schrimshaw et al., 2013, 2014, 2018; van Gemert et al., 2013); or b) when respondents were not asked for their sexuality, and reported sex with both men and women (e.g., Dodge et al., 2013; Martinez et al., 2011; Mattera et al., 2018). The nomenclature of labelling a participant as behaviourally linked to an identity label is uncommon in sexuality scholarship (Cameron and Kullick, 2003), and can be problematized. If H-MSM are mislabelled as behaviourally bisexual, then neither bisexual-identified people nor H-MSM will be distinctly represented in the results and the implications may be applied inappropriately.

Of secondary concern is mixed terminology labelling participants on sexual behaviour, without considering identity. Men who have sex with men and women (MSMW), as discussed above, could be interpreted as bisexual men or as heterosexual men (Dodge et al, 2008). Relying solely on sexual behaviour also does not allow for emerging identities and flexibility in labels,

excluding pansexuality, heteroflexibility, and other identities. H-MSM may be the label that is most descriptive and representative of the population.

Overall, the questions that researchers and practitioners ask of men inform the ways in which we conceptualize their experience. If we ask questions like “who do you have sex with?” and “how do you identify your sexuality?” and report the true complexity of responses, the field may better reflect the identities and experiences of the community.

Limitations

This scoping review has numerous limitations. A meta-analysis was not plausible given the heterogeneity of the design, measures, and outcomes across included studies (Cumpston et al., 2019). Only including studies available in English limited the scope of the search. This review did not synthesize literature pertaining to sexual fantasies, which some scholars argue is another key dimension of sexuality (Canivet et al, 2022).

Conclusion

This review demonstrates that H-MSM are a distinct population that are increasingly of focus in sexuality scholarship. Literature is primarily exploratory in nature, developing over the past two decades. The next phase of scientific inquiry with H-MSM may be in the development and evaluation of interventions (e.g., targeted prevention campaigns, psychosocial support) to address the issues identified in this review.

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