Thesis on Exiting Data: Social Policy and Public Health

Intersectional Stigma in Men who have Sex with Men living with HIV: Implications for Mental Health

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Abstract

This study empirically measured how HIV-related stigma mediates the relationship between migration background and mental health concerns of men who have sex with men (MSM) living with human immunodeficiency virus (HIV), in order to investigate the intersectional stigmas that may influence the mental health concerns of MSM living with HIV. The study sample was based on data from the 2018 online survey 'Men and Sexuality', and focused on the HIV-positive sample (n = 360, median age = 47, Dutch background = 280). The questions assessed in this study measured HIV-related stigma (HIV Barometer Survey) and anxiety and depression (HADS). The migration background of participants was measured according to the Dutch, Western and non-Western background, based on the categorisations from the Dutch national bureau of statistics (CBS). Additionally, age, level of education and time since HIV diagnosis were included as control variables. The analysis revealed that mental health concerns as well as HIV-related stigma are stronger in those from a non-Western migration background ($p \leq 0.05$). The mediation analysis supported the hypothesis that HIV-related stigma mediates the relationships between migration background and mental health concerns, in the case of non-Western background, b = 0.64, 95% CI (0.04, 1.38). The results reveal a difference in stigma and mental health concerns across different migration backgrounds of MSM living with HIV, and by taking factors specific to the community, the significant mediation analysis may point towards evidence of an intersectionality of stigmas. Overall, the evidence shows that more efforts must be made in preventing HIV-related stigma and mental health concerns for MSM living with HIV from non-Western migration backgrounds. Thus, interventions must consider more closely the internal stigma and external stigma towards HIV in non-Western migration groups, as stigma and its related mental health concerns have implications on the progression and treatment of HIV.

People diagnosed with HIV (Human Immunodeficiency Virus) experience a lower health related quality of life, due to their disease-related symptoms, however also due to their increased risk of mental health concerns (Den Daas et al., 2019). HIV is often comorbid with common mental disorders (CMD), such as anxiety and depression, which may have consequences on HIV treatment and progression (Spies et al., 2013). A factor influencing the mental wellbeing of people living with HIV (PLWH) is the stigma they receive, as HIV remains socially stigmatised today (Stutterheim et al., 2012b). PLWH are stigmatized not only in relation to the condition itself, but also due to the forms of norm-violating behaviour, such as homosexuality, particularly in the case of men who have sex with men (MSM) (Stutterheim et al., 2012a). Within the community of PLWH, there are differences in the experience of HIV-related stigma. For instance, HIV-related stigma is more pronounced in people with a migration background (Stutterheim et al., 2012a). As such, the stigma which people receive is not simply related to one specific aspect of a group, rather there is an overlapping and interaction of stigmas occurring, as people may belong to several stigmatised groups at the same time. This overlapping of stigmas may produce stress in minority groups, particularly for people of an ethnic minority background (Meyer, 2003). Through applying an intersectional approach, it is possible to understand how minority stressors behind the mental health concerns, such as stigma related to HIV and ethnic background, may influence each other and produce mental health concerns. Understanding the mental health of the MSM community living with HIV is crucial, as mental health concerns in PLWH have implications for treatment, adherence to treatment and progression of HIV (Spies et al., 2013).

HIV, Mental Health and Stigma

PLWH are more likely to develop mental health concerns, often related to common mental disorders (Spies et al., 2013). Anxiety and depression are especially prevalent and comorbid with HIV/AIDS (Spies et al., 2013). In the case of depression, evidence suggests

that the prevalence is two to four times higher in PLWH, compared to the general population and comparable HIV-negative individuals (Spies et al., 2013). Depression has several consequences on the experience of HIV, as not only is it associated with faster disease progression after 5 years, it also significantly worsens adherence to HIV-treatment (highly active antiretroviral therapies/HAART) and thereby may worsen HIV viral control (Spies et al., 2013). Anxiety may be triggered by HIV diagnosis, and produce similar challenges to depression in adherence to HIV treatment (Spies et al., 2013). Evidence suggests that for PLWH with CMDs, HIV treatment gains increase when CMDs are treated through psychosocial interventions such as cognitive behavioural therapy, rather than through pharmacologic interventions (Spies et al., 2013). In their review of the literature, Spies et al. (2013) noted that for PLWH with CMDs, interventions focused on cognitive restructuring and coping skills to reduce stress resulted in a significant reduction in depression and anxiety symptoms, compared to those without a treatment. However, treatments are often not available where there is the greatest need, as international guidelines for treating anxiety and depression in the context of HIV/AIDS are lacking (Spies et al., 2013). Thus, leaving anxiety and depression untreated may have consequences on HIV treatment and disease progression, and recognising and treating CMDs in the most effective and equal way is important for containing the HIV public health problem (Spies et al., 2013).

The mental health concerns of PLWH can frequently be related to the stigma they experience towards HIV (Stutterheim et al., 2012a,b). Overall, PLWH experience HIV-related stigma through different mechanisms, including enacted stigma, anticipated stigma and internalised stigma (Rueda et al., 2016). Enacted stigma refers to discrimination towards PLWH, including acts of violence and marginalisation. Anticipated stigma refers to the expectation of experiencing prejudice and discrimination due to social perceptions towards PLWH. Internalised stigma refers to the negative beliefs, views and feelings related to one's HIV-positive status. Therefore, PLWH may hold negative feelings about themselves for

having HIV, as well as experience prejudice towards HIV (Rueda et al., 2016). PLWH may report stigmatizing experiences such as avoidance, abandonment, exclusion, rejection and blaming (Stutterheim et al., 2012b). These stigmatising experiences may result in mental health concerns such as feelings of emotional distress, shame, depression, increased anxiety, reduced quality of life and stress associated with disclosure (Rueda et al., 2016).

There are several groups which may experience more pronounced HIV-related stigma, one of which is the MSM community. HIV/AIDS has been linked to homosexuality throughout the epidemic, including media referring to HIV as 'gay-related immune deficiency' (GRID) throughout the 1980s (Herek& Capitanio, 1999). Today, homosexual men may still confront multiple layers of stigmatisation and discrimination based on their sexuality, behaviour and their HIV-status, and HIV-related stigma may manifest itself both in HIV-negative gay communities and HIV-positive gay communities (Smit et al., 2012). The higher levels of stigmatisation that MSM face, including HIV-related stigmatisation, may result in higher mental health concerns in MSM living with HIV (Smit et al., 2012). A study on the Dutch population found that men with same-sex attraction were more likely than heterosexual men to have had a major depressive disorder (12-months) and mood disorders (lifetime) such as major depression or general anxiety disorder (Sandfort et al., 2014). In sum, in comparison to their heterosexual counterparts, sexual minority individuals suffer more from mental health concerns (Sandfort et al, 2014).

Another community particularly at risk for HIV-related stigma are migrants. In 2019, 23 percent of the Dutch population had a migrant background, almost half of which came from within Europe (CBS, 2020). For people from a non-Western background, people of Turkish origins formed the largest group and the Dutch of Moroccan and Surinamese descent formed the second and third-largest groups (Kamer, 2020). Despite the ethnic diversity, there are still certain prejudices towards immigrant groups in the Netherlands (Creighton et al.,

2018). Migrants may be at risk for being stigmatised for their ethnic minority background, and this ethnic-stigmatisation may be compounded with other factors, notably also HIV-status (Stutterheim et al., 2012b). Globally, migrants are considered as a key group at risk for HIV infection (Hernando et al., 2015). In the Netherlands, non-Western migrants, mainly originating from Sub-Saharan Africa and the Caribbean, comprise one tenth of the Dutch population, but one third of all HIV cases (Stutterheim et al., 2012a). African and Afro-Caribbean diaspora living with HIV in the Netherlands experience more fear of direct stigmatisation and stigmatisation by association than the Dutch PLWH (Stutterheim et al., 2012a). They also report personal experiences with enacted stigma and shame (i.e., internalized stigma), which often means they are more likely to conceal their HIV-status (Stutterheim et al., 2011). Stutterheim et al. (2011) found that PLWH from African and Afro-Caribbean backgrounds are more likely refrain from revealing their status to friends and family, health-care providers and sexual partners out of a fear of stigmatization. In sum, migrants from non-Western backgrounds are at a higher risk for HIV-infection, as shown by the higher prevalence of HIV in migration backgrounds, and they also experience increased internalised and enacted HIV-related stigma (Stutterheim et al., 2011).

Both migration and marginalisation have been suggested as possible risk factors for mental health problems in Western Europe and the Netherlands (Fassaert et al., 2009). In the Netherlands, CMDs are considerably more prevalent in non-Western migration backgrounds, in particular for Turkish and Moroccan migrants (Fassaert et al., 2009). In comparison to their Dutch counterparts, young non-Western migrants are overrepresented in mental health services in the Netherlands (Özbek et al., 2015). Compared to their Dutch young adults, Turkish migrant young adults report more problems of internalising problems, especially for anxiety and depression (van Oort et al., 2006). Özbek et al (2015) found that Turkish and Moroccan young adults between 18 and 24 years report more diffused acculturation and can report more internal and external psychological problems than those who are integrated or

separated from Dutch society. Additionally, lower social economic status as well as lower education are related to higher mental health problems among Dutch adolescents (Weinberg et al., 2019). Moreover, Turkish and Moroccan migrants are more reluctant in reporting mental health problems, and rather focus on somatic symptoms and may miss out on mental health services (Fassaert et al., 2009). Thus, stigma related to mental health may act as a barrier to care, and may also contribute to mental health concerns (Fassaert et al., 2009).

Theoretical Framework

As the evidence suggests, PLWH may face HIV-related stigma, which can be experienced through different mechanisms and result in a host of mental health concerns. In addition, the experience of stigma may be more pronounced in certain groups. Stigma may result from different processes. Goffman (1963) suggested 3 general categorisations for stigma processes. The first category is 'abominations of the body'. These stigmas are related to physical health ailments, such as HIV or mental health concerns. The second category is 'tribal' forms of stigma, which describe affiliations with marginalised groups, such as racial or ethnic minorities. The third category is known as 'blemishes to the individual character', and these are seen as actions which are regarded outside the norms, such as homosexuality. However, to simply regard these as single stigmas, without the consideration of the co-experience of stigmas associated with other conditions, identities, or behaviours, is insufficient (Turan et al., 2019). People experience intersecting forms of stigma, which effect health behaviours, physical health and importantly also mental health (Turan et al., 2019). As a result, we may shift our attention from single stigmas to an overlapping of stigmas, also known as 'intersectional stigma' (Turan et al., 2019). Crenshaw presented the intersectional approach by arguing that multiple marginalisations are mutually constituted and that individual characteristics (for example race and sex/gender) cannot be treated as distinct subjects (Bauer, 2014). Based on this assumption, Goffman's categories of stigmas may

coexist and also influence each other. Therefore, a member of the MSM community living with HIV may experience stigma for their HIV-status, which may overlap with stigma towards their sexuality or migration background. As an overarching concept, intersectionality may offer great insights into population health by more precisely identifying inequalities, by ensuring that factors are relevant to specific communities and overall in developing intervention strategies (Bauer, 2014). As such, through taking minority social categorisations into account with an intersectional approach, the experience of mental health in HIV-positive MSM may be better understood.

The above evidence suggests that the stigmatisation HIV-positive MSM experience may produce psychological stress. The association between stigma and stress can be explained by the psychological mediation framework presented by Hatzenbuehler (2009). Hatzenbuehler developed the framework to describe how sexual stigma "gets under the skin" (Hatzenbuehler, 2009). The theory suggests that sexual minorities confront increased stress exposure resulting from stigma; this stigma related stress leads to emotional dysregulation, interpersonal problems and cognitive processes and these processes finally mediate the relationship between stigma-related stress and psychopathology (Hatzenbuehler, 2009). Together, this elevates the risk of negative mental health outcomes in sexual minorities (Hatzenbuehler, 2009). As such, the given framework helps to understand why the stigma MSM experience may lead to further psychological outcomes.

Hatzenbuehler's framework draws upon the insights from Minority Stress Theory (Meyer, 2003), which highlights the role of stress in mental health of lesbian, gay and bisexual (LGB) populations, and may also be applied to other minority category populations. The conceptual framework of Minority Stress is an elaboration of social stress, namely stress related to the social environment, rather than individual life events (Meyer, 2003). Minority Stress Theory describes how stigma, prejudice and discrimination create a hostile and

stressful social environment leading to mental health problems (Meyer, 2003). Individuals from stigmatized social categories, such as race/ethnicity or sexuality, are exposed to excess stress as a result of their social, often minority, position (Meyer, 2003). According to Meyer (2003) it is possible to distinguish three underlying criteria of minority stress. Firstly, minority stress is unique, and therefore the stigma that an individual experiences is a unique combination of general stressors experienced by all people. Secondly, minority stress is chronic, and therefore related to relatively stable underlying social and cultural structures. Thirdly, minority stress is socially based, and derived from social processes, institutions and structures beyond the individual's actions, characteristics and events. This environment may then lead to mental health problems for people within stigmatized minority groups, which eventually leads to minority stress (Meyer, 2003). Therefore, the stress that MSM living with HIV face is unique to the individual and may be explained by different processes, both from their social and cultural environment.

Overall, the evidence shows that the MSM community living with HIV experience an intersectionality of stigmas. Goffman's categorisations may explain the sources of stigma processes occurring in the community studied in this paper, including stigma towards abominations of the body (HIV), tribal forms (migration background) and stigmas towards the practices in which the community engage in (MSM). Through applying an intersectional approach, this study adds to the literature by empirically exploring how HIV-related stigma may influence the experience of mental health concerns across different migration backgrounds.

Research question and hypotheses

Understanding the mental health concerns of MSM living with HIV is important on an individual level, however also at a public health level. Although the subject of mental health in stigmatised groups has been studied, such as LGBs or PLWH, this study also empirically focuses on the overall experience of stigma for PLWH, taking a layered, intersectional

approach. PLWH may experience multiple stigmas at the same time, and it is necessary to understand exactly how HIV-related stigma is interacting with other factors, namely migration background. Therefore, this research aims to address the following question*:* Are there differences in mental health concerns among MSM living with HIV from different migration backgrounds, and are these differences in mental health concerns mediated by differences in HIV-related stigma? To answer these questions, it is necessary to understand the relationship between all factors involved. The relationship between the factors may be explained through a mediation model. Based on the research question and the subsequent mediation model, several hypotheses are made.

The first hypothesis (H1) is that migration background significantly effects mental health concerns. The second hypothesis (H2) is that migration background significantly effects HIV- related stigma. The third hypothesis (H3) is that HIV-related stigma significantly effects mental health concerns. The final hypothesis (H4) is that the relationship between migration background and mental health concerns is mediated by HIV-related stigma. This analysis also hypothesises that age, education and time since diagnosis may act control variables. As such, lower age, lower education and more recent time since diagnosis may predict higher mental health concerns.

Method

Research Design and Procedures

This research uses data from the cross-sectional Survey of Men and Sexuality 2018, which explored the sexual health of MSM in the Netherlands. Before carrying out the survey, an information paragraph was provided with details on the survey, including information on the study, extensive participant information, informed consent form to participate, a confidentiality agreement and the web link to the survey. The Faculty Ethics Committee of Utrecht University (FETC17-131) gave approval to carry out the study.

Sample and Recruitment

The survey was undertaken from February to June in 2018 by the Dutch National Institute for Public Health and Environment, SOAIDS Nederland and Utrecht University. The study aimed to reach a diverse group of MSM above 16 and living in the Netherlands. Within the study, a particular focus was on MSM under 25 and those with migration background. The survey was available in six languages: Dutch, English, French, Farsi, Arabic, and Turkish. Overall, inclusion criteria were: identifying as male, aged 16 years or older, currently living in the Netherlands, and having had sex with men, being attracted to men or expecting to have sex with men in the future.

The participants were recruited general social media, gay-specific media (online and offline), as well as gay dating apps. Health services were engaged by way of distribution of flyers and business cards. To raise awareness for the survey, information about the study was sent to organizations and a press announcement was sent to media. As an incentive to fill in the questionnaire, participants who completed the questionnaire could participate in a raffle of ten €50 gift cards.

In total, 8,101 people clicked on the survey link, of whom 7,986 provided informed consent for the study. Overall, 6205 started the questionnaire and answered at least some questions, and 3783 (61%) fully completed the questionnaire. As this study focuses on people who experience HIV- related stigma, we selected only PLWH and included 360 participants who identified as HIV-positive. Due to incomplete questionnaires, the sample was reduced further from 360 to 309 for the mediation analysis.

Participant characteristics

MSM from all regions and major cities in the Netherlands, including a diverse range of migration backgrounds, were represented in this study. Table 1 shows participant characteristics.

Table 1. Characteristics of study sample, PLWH (n=360).

Characteristics	**Frequency** **n**	**Percent** **%**
Migration background		
Netherlands	280	78
Western	30	8
Non-Western	50	14
Age group		
16-24	21	13.6
25-34	69	38.1
35- 49	137	42.5
+ 50	153	5.80
Education		
Lower	162	45
Higher	198	55
Time since diagnosis		
Not recent	168	47.7
Recent	184	52.3

Measures

Migration Background

Migration background was measured using the country of birth of MSM and that of their parents. A person is considered Dutch when both parents are born in the Netherlands, and a person is considered as having a migration background when at least one parent is born abroad. Those who were not born in the Netherlands had to indicate which country they or their parents were born in. Participants with migration background were divided further into Western and non-Western migration background groups, according to the categorizations from the national bureau of statistics (CBS). According to the CBS (2020), a person is considered as coming from a Western background when they or at least one of the parents were born in Europe (excluding Turkey), North America or Oceania, Indonesia and Japan. Thus, a person is considered as coming from a non-Western background if they or their parents come from any other country (CBS, 2020).

HIV-Stigma

HIV-related stigma items in the questionnaire were based on the HIV Barometer Survey, which originally studied the experiences of stigma in HIV-positive gay men in Australia (De Wit et al., 2013). The stigma survey covers four domains namely cognitive, affective, general social behavioural and intimate social and sexual responses. Each domain is represented by four items in the questionnaire. Participants were asked to rate each item on a 5-point Likert scale, ranging from 1 = not at all, to 5 = very strongly. For cognitive responses, the question is ‘to what extent do you experience that people think the following about you or other people with HIV? (items: they only have themselves to blame, they should be ashamed, they are worthless, they got what they deserve). For affective responses, the question is ‘To what extend do you feel that people experience the following around you or other people with HIV?’ the answer options are (items: fear, disgust, irritation, compassion). For general social

behavioural responses, the question is 'To what extent do you experience that people do the following around you or people with HIV?' (items: keeping distance, avoidance, being extra friendly, emphasize hygiene). For intimate social and sexual responses, the question was 'to what extent to you think people are interested in the following with you or other PLWH?' (items: social contact, friendship, having sex, having a steady relationship).

A reliability analysis was conducted to reveal the internal consistency of the different stigma subscales and the total scale. The Cronbach alpha values were as follows: cognitive $\alpha = 0.69$, affective $\alpha = 0.88$, general social behavioural $\alpha = 0.82$ and intimate social and sexual behavioural responses $\alpha = 0.89$. The total stigma scale was $\alpha = 0.78$. Thus, each scale and the total stigma scale provided good internal consistency, by meeting the criterion of having a Cronbach's alpha value above 0.70 (Field, 2013). For the present study, the total stigma scale was used.

Mental Health Concerns

The questions related to mental health were assessed with the Hospital Anxiety and Depression Scale (HADS), which was initially used as an instrument for detecting states of depression and anxiety in the setting of a hospital medical outpatient clinic (Zigmond & Snaith, 1983). The instrument consists of 14 items, 7 of which assess anxiety or depression respectively and are measured on a 4-point scale, where 1 is low and 4 is high. An example for a mental health related item is 'I feel tense or wound up' (1= not at all, 4= most of the time; recoded).

A reliability analysis was conducted to reveal the internal consistency of the different scales of the assessment of mental health concerns, as well as the total mental health variable. The Cronbach alpha values were as follows: total mental health concerns $\alpha = 0.89$, anxiety $\alpha = 0.87$ and depression $\alpha = 0.89$. Thus, each sub-scale and the total mental health scale provided good internal consistency. For the present study, the total mental health scale was used.

Control Variables

This analysis also took several factors into account as control variables. The first control variable was age, which was measured continuously. A further control variable was education, which compared lower education to higher education, (based on 10 answer options). The groups were formed based on the Dutch definition of lower and higher education, meaning that higher education comprises higher vocational education (HBO) and university education (WO). Any other forms of education are considered as 'lower' education. The third controlling variable was time since diagnosis. Two groups were formed, namely recently and not recently diagnosed with those diagnosed between 1982 and 2009 categorized as 'not recently' (47.7%) and those diagnosed between 2010 and 2018 as 'recently diagnosed' (52.3 %).

Statistical analysis

Prior to the main analyses, data was evaluated for missing cases. For the Dutch group, 12.1% of 280 were missing, resulting in 246 cases. For Western migration background 33.3% of 30 were missing, resulting in 20 cases. For non-Western migration background 14.0% of 50 were missing, resulting in 43 cases. This leaves 309 cases in total, making the group comparisons fairly small and also unequal.

First, the participant characteristics and the descriptive statistics of the outcome, mediator and independent variables were explored. Second, the associations between the main study variables and control variables were investigated. Third, a mediation analysis was performed to explore how migration background (X) influences mental health concerns (Y) through HIV-related stigma (M), shown in Figure 1. The mediation was assessed using the PROCESS macro for SPSS developed by Andrew F. Hayes (2020), and the output was interpreted using the four-step process by Baron and Kenney (1986). First, the association between independent variable (migration background) and dependent variable (mental health

concerns) was assessed (path c). Second, the association between independent variable and mediator variable (HIV-related stigma) was assessed (path a). Third, the association between mediator variable and dependent variable was assessed (path b). To assess the mediation effect, the indirect effects (C'AB) are interpreted, which are revealed through the bootstrapped confidence intervals.

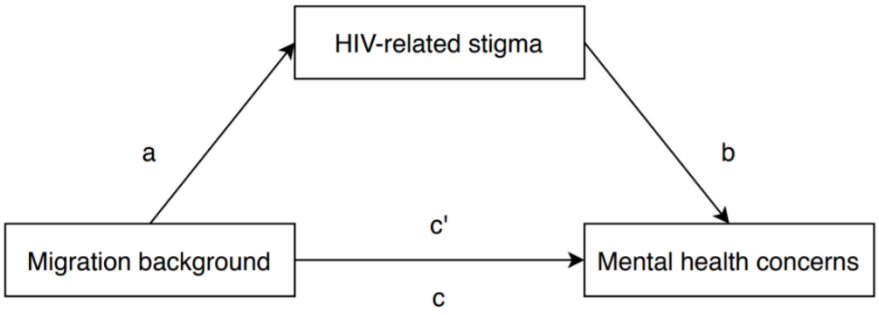

Figure 1. Associations among migration background, HIV-related stigma and mental health concerns.

Results

Participants

As shown in Table 1, a majority of the sample had a Dutch background (78%), were between 35 and 49 years old (42.5%) with the median age being 47, were highly educated (55%) and have recently been diagnosed with HIV (52%). Additionally, the data reveal that of the HIV-positive MSM (360), 94% identified as homosexual.

Descriptives Outcome, Mediator and Independent Variable

Table 2 shows descriptive statistics of the outcome variable, mental health concerns (total), the subscales anxiety and depression and the mediator, HIV-related stigma, broken down by migration group. Further differences between migration groups will be explored in the mediation analysis.

Table 2. Mean (*M*) and standard deviation (SD) of mental health scores, total and subscales, and stigma scores of MSM with Dutch, Western and non-Western migration backgrounds (*n* = 309).

	Migration background							
	Dutch		Western		Non-western		Total	
	M	SD	*M*	SD	*M*	SD	*M*	SD
Mental health concerns	8.93	8.23	10.60	9.05	12.19	8.13	9.49	8.32
Anxiety	5.15	4.39	6.15	5.35	7.05	4.31	5.48	4.49
Depression	3.78	4.29	4.45	3.94	5.14	4.26	4.02	4.28
HIV-Stigma	2.45	0.59	2.53	0.40	2.67	0.62	2.49	0.59

Overall, non-Western participants have the highest mental health concerns mean scores, followed by Western and Dutch participants. This pattern was also found for the sub-scales, anxiety and depression. The anxiety mean scores are higher than depression mean scores for all three groups. Non-Western participants also experience the highest amount of HIV-related stigma, followed by Western and Dutch participants.

Next, the associations between the study variables were investigated, see Table 3. The analysis revealed that mental health concerns are significantly positively correlated with HIV-related stigma, and are significantly negatively correlated with age. HIV-related stigma was also significantly negatively correlated with age. In other words, younger participants are more likely to experience mental health concerns and HIV-related stigma. Even though all correlations were highly significant, the Pearson's correlation coefficients are considered small.

Education was significantly negatively associated with mental health concerns, meaning that lower educated participants experience more mental health concerns ($p \leq 0.01$). Time since diagnosis was significantly positively associated with HIV-related stigma, thus the more recently diagnosed participants experienced more HIV-related stigma you ($p \leq 0.01$). Time since diagnosis was also significantly negatively associated with age, therefore, the more recently diagnosed are more likely to be younger ($p \leq 0.01$).

Table 3. Associations between the outcome variables, the mediator and the independent variables.

	1	**2**	**3**	**4**	**5**
Mental health concerns					
Migration background	3.03*				
HIV-related stigma	0.22**	2.55			
Age	-0.012*	11.82**	-0.24**		
Education	-0.19**	0.24	0.04	0.02	
Time since diagnosis	-0.08	2.19	0.17**	-0.39**	≤0.01

*. Association is significant at the 0.05 level (2-tailed).
**. Association is significant at the 0.01 level (2-tailed).

Associations:
Pearson correlation: continuous IV and continuous DV
Spearman's r = ordinal V and continuous V
Chi square = categorical IV and categorical DV
ANOVA F statistic = categorical IV and continuous IV

Mediation analysis

The mediation was analysed using the four steps by Baron and Kenney (1986), which form the hypotheses of the study. Later, the mediation was also assessed when including the control variables in the model. The results of the first three mediation steps are shown in

Table 4 and the final results are presented in Figure 3. The steps were analysed using two pairwise comparisons, comparing participants with a Dutch background to participants with Western background and the participants with a Dutch background to the participants with a non-Western migration background.

In the first step, the association between the independent variable (migration background) on the dependent variable (mental health concerns) (path c) was assessed. The regression analysis showed that non-Western migration background is positively significantly associated with mental health concerns, b = 3.26, t (306) = 2.38, $p = 0.02$. This means that those with a non-Western migration background experience a worse mental health than their Dutch counterparts.

In the next step, the analysis assessed the association between the independent variable (migration background) on the mediator (HIV-related stigma) (path a). The regression analysis showed that non-Western migration background is positively significantly associated with HIV-related stigma, as $b = 0.21$, t (306) = 2.23, $p = 0.03$. This means that those with a non-Western migration background experience more HIV-related stigma than their Dutch counterparts.

Next, the analysis found a significant association between the mediator and the dependent variable (path b), as $b = 2.93$, t (305) = 3.79, $p \leq 0.01$. Therefore, an increase in HIV-related stigma results in an increase in mental health concerns.

Table 4. Associations between the independent, mediator and dependent variables.

	B	**SE**	**95% CI (LL, UL)**	***p*-value**
Step 1				

Migr. background → Mental health concerns				
Western	1.67	1.92	(-2.11, 5.45)	0.38
Non-Western	3.25	1.37	(0.57, 5.94)	0.02
Step 2				
Migr. background → HV-related stigma				
Western	0.07	0.14	(-0.19, 0.35)	0.57
Non-Western	0.21	0.10	(≤0.01, 0.41)	0.03
Step 3				
HIV-related stigma → Mental health concerns	2.93	0.79	(1.38, 4.47)	≤0.01

In the next step, we assessed the association between migration background and mental health concerns, when including HIV-related stigma in the model (path c'). The results showed that non-Western migration background continued to significantly predict mental health concerns, b = 2.62, t (305) = 1.94 p = 0.05. As the strength of the relationship between the predictor and the outcome is reduced by including the mediator (coefficient b is reduced from 3.26 to 2.62), it is possible to assume that mediation has occurred (Field, 2013).

We further assessed the mediation effect of HIV-related stigma on the association between migration background and mental health, using the indirect effect (C'AB) of the pairwise group comparisons. The indirect effect was not significant for people of a Western background, as b = 0.23, SE = 0.29, 95% CI (-0.34, 0.87). Meanwhile, in the case of those with a non-Western migration background, it was possible to conclude that mediation had occurred, as b = 0.64, SE = 0.35, 95% CI (0.04, 1.38). Therefore, this analysis confirmed that the relationship between non-Western migration background and mental health concerns is

mediated by HIV-related stigma. People from a non-Western migration background experience more HIV-related stigma, which results in more mental health concerns.

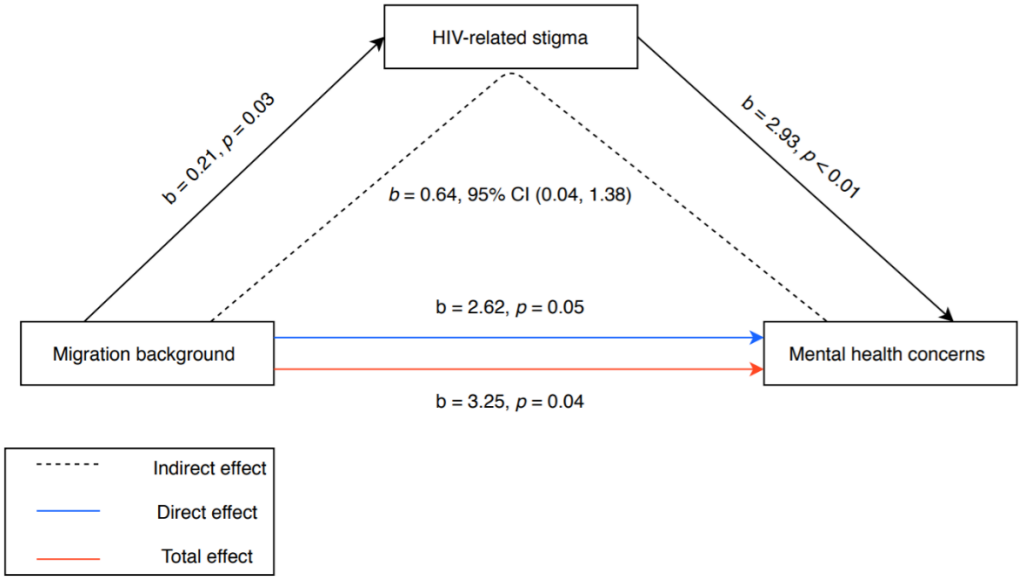

Figure 3. Mediation model for the indirect effect of HIV-related stigma on the relationship between non-Western migration background and mental health concerns.

In addition, we further assessed whether the mediation effect had occurred when including control variables in the model, as reported in Table 5. The mediation effect did not change when including the control variables education and time since diagnosis in the model. Therefore, these control variables were significantly associated with the mediation model.

On the other hand, when controlling for age, the role of HIV-related stigma in the association between migration background and mental health disappeared. This suggests that there are effects of age unrelated to HIV-related stigma. Previous analysis showed that migrants from a non-Western background were more likely to be younger. Younger migrants were also more likely to have higher mental health concerns and experience more HIV-related stigma. Therefore, the previous analysis and mediation results suggest that difference in mental health concerns in participants with a non-Western migration background, are not due

to the migration background of the participants, rather due to the association of age on mental health and HIV-related stigma for participants of a non-Western background.

Table 5. Mediation when controlling for age, education and time since diagnosis.

	B	***SE***	**95% CI (LL, UL)**
Age			
Western	0.25	0.28	(-0.26, 0.87)
Non-Western	0.35	0.31	(-0.25, 0.97)
Education			
Western	0.22	0.29	(-0.32, 0.85)
Non-Western	0.63	0.33	(0.04, 1.34)
Time since diagnosis			
Western	0.37	0.31	(-0.20, 1.04)
Non-Western	0.65	0.37	(0.01, 0.17)

Discussion

This study explored how the migration background of MSM living with HIV is associated with the experience of mental health concerns, and how much this association is mediated by HIV-related stigma. The findings supported the first hypothesis, as there was a significant difference in mental health concerns found, in the case of comparing the Dutch background to a non-Western background. The analysis also revealed that both anxiety and

depression scores were higher in non-Western migration background compared to the Dutch group. The second hypothesis was also met, as HIV-related stigma was higher in participants with a non-Western migration background compared to Dutch participants. In addition, the analysis confirmed the third hypothesis, namely that an increase in HIV-related stigma results in higher mental health concerns in MSM living with HIV. The 4th hypothesis was also confirmed, as the mediation analysis found differences in mental health concerns across migration backgrounds, which may partly be explained through HIV-related stigma. In regards to the control variables, the analysis suggested that education and time since diagnosis were significantly associated with the mediation model. However, when controlling for age, the mediation effect was no longer significant**.** Overall, the results indicate that more efforts are needed to combat HIV-related stigma and related mental health concerns among non-Western groups, and to focus on the age differences in the non-Western migration backgrounds.

Findings in context of research and theory

This study found that experiences of anxiety and depression were higher among non-Western MSM living with HIV, and that the association between migration background and mental health concerns may be mediated by HIV-related stigma in non-Western migration backgrounds. These findings are aligned with previous findings which show that CMDs are more likely in PLWH, and that non-Western migrants experience more mental distress compared to their Dutch counterparts (Özbek et al. 2014; Stutterheim et al., 2011, 2012a,b). Additionally, the literature showed that non-Western migrants including Turkish and Moroccan migrants, and Turkish and Moroccan young adults experience more mental health concerns in the Netherlands (van Oort et al., 2006; Özbek et al., 2015). The results supported the assumption that young non-Western migrants experience more mental health concerns, as there was an effect of age on the association between migration background and mental

health. The mediation showed that this association was unrelated to HIV-related stigma. This suggests that when controlling for age, the difference in mental health concerns in MSM living with HIV is related to the difference in age, rather than non-Western migration background. This is an interesting finding in the context of existing literature on mental health in MSM, and should be explored in future research.

Migrants are also more likely to receive higher levels of stigma for other factors, including HIV-status (Stutterheim et al., 2012b). In this study, HIV-related stigma was stronger in MSM living with HIV from a non-Western background, in comparison to those with a Dutch background. A qualitative study by Anderson et al. (2008) on HIV-positive Caribbean diaspora in the UK confirmed that HIV/AIDS-related stigma and discrimination (HASD) reinforces the marginalisation of previously stigmatised groups. Jamaican-born PLWH were more likely to experience HASD in terms of acts of violence and employment discrimination than UK -born PLWH. Further, the perception that they may experience higher levels of stigmatisation, mitigated against HIV-status disclosure and openness (Anderson et al., 2008). Therefore, this study found experiences of anticipated, internalised and enacted stigma in migrants living with HIV. Stutterheim et al. (2012b), found similar results in the Netherlands. Their findings suggest that in HIV-positive and HIV-negative African and Afro-Caribbean communities, HIV-related stigma manifests itself through social and physical distance and through words and silence, meaning through both enacted and internalised stigma. HIV-related stigma experiences have several psychological consequences, including emotional pain, sadness, loneliness, anger, frustration and internalised stigma, as well as social consequences including decreased social network size, limited social support and social isolation (Stutterheim et al., 2012b). In future research, HIV-related stigma must be explored for further non-Western migration backgrounds, and the different mechanisms in which the stigma is experienced must be taken into consideration.

Goffman's categorisations of stigma processes may help to explain the different sources of stigma that MSM living with HIV may face. The results showed that MSM from non-Western backgrounds experience more stigma. As mentioned earlier in Hatzenbuehler's Psychological Mediation Framework, stigma related stress produces mental health problems (Hatzenbuehler, 2009). Therefore, the outcome that HIV-related stigma results in increased mental health concerns is aligned with the hypothesis in the stigma literature that stigma may produce stress and further mental health problems. In addition, Minority Stress Theory (Meyer, 2003) argues that people who are members of stigmatised social categories experience more stress. This was confirmed in our study as those with a non-Western migration background experienced more HIV-related stigma and more mental health concerns than the Dutch group. Further research may consider more closely the different processes in which the stress is experienced, as Minority Stress theory suggests it may arise from individual, social and cultural, and institutional processes.

Exactly why these those with a non-Western migration background experience more stigma and mental health concerns may be explained through the concept of intersectionality. Though this study only focused on HIV-related stigma, the intersectionality of Goffman's categorisations may help to explain how the different sources of stigma interact and produce mental health concerns. Treating stigmatised categorisations of the HIV-positive MSM community as overlapping stigmas through the mediation model, allowed the study to evaluate the synergistic effects occurring, rather than looking only at individual effects. The findings may provide evidence for intersectionality, as migration background and stigma are linked and together, they have a bearing on mental health.

Strengths and Limitations

A strength of this study is that it gave insights into the mental health concerns of the HIV-positive MSM community in the Netherlands, by empirically using the intersectional

approach. The results show how the different factors are associated, and may produce more stress in minority groups.

There are several important limitations of the study to take into account. The aim of the research was to investigate how different sources of stigma influence the mental health concerns of MSM living with HIV across different migration backgrounds. While the study did take several stigmatised categories into account as factors in participant population, the study only empirically measured HIV-related stigma, rather than other sources such as sexuality-related stigma. Future research investigating how migration background influences mental health, should consider different sources of stigma as well as measure stigma towards the stigmatised categories, rather than measure them as factors. Each experience of stigma in unique, however through applying the intersectional approach you are able to understand the specific needs of the community more fully. There is a need for further integration of intersectionality within HIV reviews, integrating diverse and cross-cultural, cross-racial, and cross-geographical research (Jackson-Best & Edwards, 2018).

A further limitation is the limited sample size. As the sample was reduced to those with HIV, the sample size was 360. The sample was then split into migration groups with unequal representation, as the Dutch group was significantly smaller than the migration groups, making causal explanations difficult. Furthermore, within the migration group there may be considerable differences to take into account. For instance, in the non-Western group, there are significant cultural differences for those of ex-Dutch colonial countries compared to Turkish and Moroccan background (Fassaert et al., 2011). Moreover, as this is a relatively small convenience sample, it is not possible to generalise the findings onto the entire MSM population in the Netherlands. In order to improve generalizability, the migration groups should be larger, and more equal to each other. Furthermore, as the survey collected data

using self-report, there is a risk of reporting bias, as this research focuses on culturally sensitive subjects such as mental health, sexuality and HIV.

Implications

There are key messages to draw from the study results. This study confirmed that MSM living with HIV from migration background experience more mental health concerns and HIV-related stigma than the Dutch population, and that younger age was associated with more HIV-related stigma and mental health concerns. The literature showed that in the Netherlands, mental health concerns are high in (young) Turkish and Moroccan migration backgrounds (van Oort et al., 2006; Özbek et al., 2015). To understand the association between migration backgrounds and mental health concerns in MSM living with HIV more deeply, the experience mental health of PLWH from specific and different non-Western migration backgrounds and age of non-Western migrants need to be studied more closely**.**

Previously, the literature noted that for PLWH with CMDs, interventions focused on cognitive restructuring and coping skills to decrease stress may be effective in reducing depression and anxiety symptoms (Spies et al., 2013). As the results suggest that PLWH from a migration background experience more HIV-related stigma and mental health concerns, there should be a focus on coping skills specifically for people from a migration background. A qualitative study by Stutterheim et al. (2012b) found that African and Afro-Caribbean PLWH in the Netherlands often employ both problem-focused strategies such as concealment, avoiding situations where stigmatisation is likely (disengagement) and seeking social support, as well as emotion-focused strategies, such as distraction or disidentification with the stigmatised identity (Stutterheim et al., 2012b). Coping mechanisms such as support seeking have been positively related to psychological wellbeing, whereas stigma avoidance has been linked to more psychological distress (Stutterheim et al., 2012b). Therefore, interventions focusing on problem-based coping strategies, such as support seeking, for HIV may help the

mental health of PLWH from non-Western migration backgrounds. On a macro-level, interventions are needed to focus on the societal and community structures that promote stigmatisation (Stutterheim et al., 2011). For instance, interventions designed to support sexual minority men's stigma coping abilities can protect against risk, however to produce the desired outcome, structural changes aimed at reducing stigma at its source in stigmatizing political, legal, and institutional structures are also needed (Weinberg et al., 2019). Overall, by tackling the internalised and enacted stigma associated with HIV in people from various migration backgrounds, there may be improvements in psychological wellbeing as well as improvements in HIV prevention efforts and adherence to treatment (Stutterheim et al., 2011,12a,b).

Conclusion

PLWH experience more mental health concerns than their HIV-negative counterparts. (Spies et a., 2013). Mental health concerns in PLWH have implications for treatment, adherence to treatment and progression of HIV (Spies et a., 2013). A contributing factor in the mental health concerns is the stigma PLWH receive for their HIV-status, however PLWH may be marginalised and stigmatised for a host of reasons. By taking an intersectional approach, this study explored the mental health concerns of the MSM living with HIV in more depth, by investigating how HIV-related stigma mediates the relationship between migration background and mental health concerns. The results show that for MSM living with HIV in the Netherlands, the relationship between non-Western migration background and mental health concerns may be mediated by HIV-related stigma. In addition, for the participants with a non-Western background, education and time since diagnosis are significantly associated in the mediation model, however the mediation effect disappears when taking age into account as a control variable.

The different mechanisms in which PLWH with a non-Western migration background experience HIV-related stigma must be researched, as there is a need to prevent self-stigmatisation as well as enacted stigma and marginalisation, in order to prevent its associated mental health concerns. In addition, the results indicate that attention should be brought on the younger non-Western migrants living with HIV, as age was associated with more mental health concerns and more HIV-related stigma in these groups. Problem-based coping strategies to deal with HIV-related stigma are related to psychological wellbeing, particularly for migrants with an African and Afro-Caribbean background (Stutterheim et al., 2011,12a,b). These strategies must be explored for other non-Western migration backgrounds. Future research around stigma and mental health in PLWH must be critical in identifying factors contributing to them, as the results suggests that factors may be linked and together, contribute to the overall problem. Using the principle of intersectionality may be the first step towards a more inclusive intervention approach.

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Appendix A: Data Analysis Syntax

```
RECODE hivstatus (1=1) (ELSE=0) INTO HIVPos.
EXECUTE.
TEMPORARY.
Select if ( HIVPos eq 1).
RECODE Migr_2gr (3=1) (1=2) (2=3) INTO Migr3cat.
FREQUENCIES Migr3cat.
 FREQUENCIES VARIABLES=ageR
 /ORDER=ANALYSIS.
RECODE opl (1=1) (2=1) (3=1) (4=1) (5=1) (6=1) (7=2) (8=1) (9=1) INTO Educ.
EXECUTE.
FREQUENCIES VARIABLES=Educ.
 /ORDER=ANALYSIS.
Recode diagn_yrR (1982 thru 2009 = 1) (2010 thru 2018 = 2)( 99999 = SYSMIS)  into
        DiagnYrcat.
FREQUENCIES DiagnYrcat
RELIABILITY
 /VARIABLES=Stigmatot1 Stigmatot2 Stigmatot3 Stigmatot4
 /SCALE('ALL VARIABLES') ALL
 /MODEL=ALPHA
 /STATISTICS=DESCRIPTIVE SCALE CORR COV
 /SUMMARY=TOTAL.
 RELIABILITY
 /VARIABLES=Stigmatot5 Stigmatot6 Stigmatot7 Stigmatot8
 /SCALE('ALL VARIABLES') ALL
 /MODEL=ALPHA
 /STATISTICS=DESCRIPTIVE SCALE CORR COV
 /SUMMARY=TOTAL.
RELIABILITY
 /VARIABLES=Stigmatot9 Stigmatot10 Stigmatot11 Stigmatot12
 /SCALE('ALL VARIABLES') ALL
 /MODEL=ALPHA
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  /STATISTICS=DESCRIPTIVE SCALE CORR COV
  /SUMMARY=TOTAL.
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      Stigmatot7 Stigmatot8 Stigmatot9 Stigmatot10 Stigmatot11 Stigmatot12 Stigmatot13
      Stigmatot14 Stigmatot15 Stigmatot16
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE CORR COV
  /SUMMARY=TOTAL.
RELIABILITY
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  /SCALE('ALL VARIABLES') ALL
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  /STATISTICS=DESCRIPTIVE SCALE CORR COV
  /SUMMARY=TOTAL.
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  /CRITERIA=ALPHA(.05)
  /DESIGN=Migr3cat.
UNIANOVA HADS_A BY Migr3cat
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PRINT ETASQ DESCRIPTIVE PARAMETER
  /CRITERIA=ALPHA(.05)
```

```
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UNIANOVA HADS_D BY Migr3cat
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PRINT ETASQ DESCRIPTIVE PARAMETER
  /CRITERIA=ALPHA(.05)
  /DESIGN=Migr3cat.
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA CHANGE ZPP
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT HADS_t
  /METHOD=ENTER Stigma_t ageR
   ONEWAY Hads_t BY Migr3cat
  /STATISTICS DESCRIPTIVES HOMOGENEITY BROWNFORSYTHE WELCH
  /PLOT MEANS
  /MISSING ANALYSIS.
  ONEWAY stigma_t BY Migr3cat
  /STATISTICS DESCRIPTIVES HOMOGENEITY BROWNFORSYTHE WELCH
  /PLOT MEANS
  /MISSING ANALYSIS.
  ONEWAY age_R BY Migr3cat
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  /PLOT MEANS
  /MISSING ANALYSIS.
ONEWAY  DiagnYrcat BY Migr3cat
  /STATISTICS DESCRIPTIVES HOMOGENEITY BROWNFORSYTHE WELCH
```

```
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  /MISSING ANALYSIS.
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  /VARIABLES=HADS_t Educ
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NONPAR CORR
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