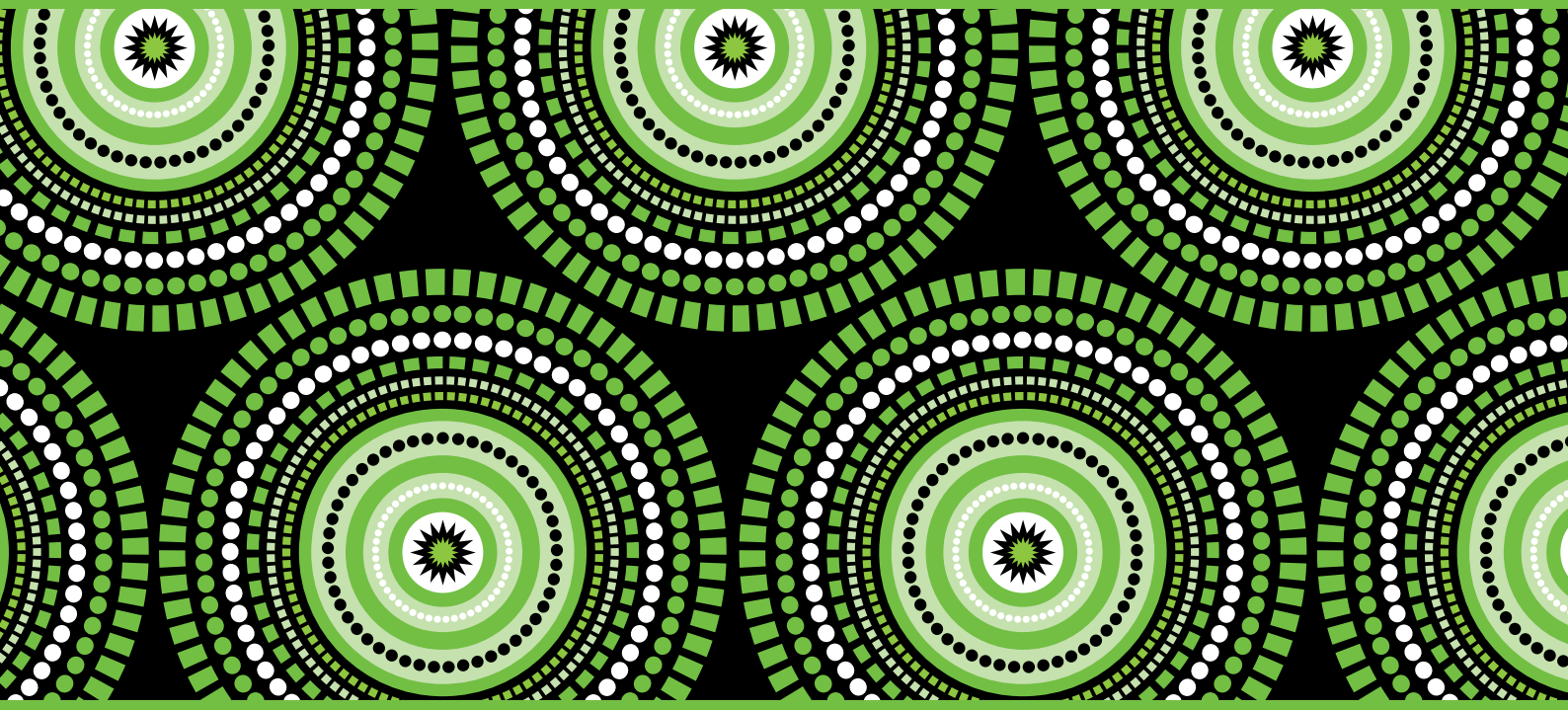
Are we doing alright?

Realities of violence, mental health and access to healthcare related to sexual orientation and gender identity and expression in Botswana

RESEARCH REPORT BASED ON A COMMUNITY-LED STUDY IN NINE AFRICAN COUNTRIES

ALEX MÜLLER, KRISTEN DASKILEWICZ AND THE SOUTHERN AND EAST AFRICAN RESEARCH COLLECTIVE ON HEALTH (SEARCH)



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The SEARCH Collective

Zimbabwe

Gays and Lesbians of Zimbabwe

Sexual Rights Centre

Botswana

Bonela

Lesbians, Gays and Bisexuals of Botswana

Rainbow Identity Association

Zambia

Friends of Rainka

The Lotus Identity

TransBantu Zambia

Netherlands

COC

South Africa

Durban Lesbian and Gay Community and Health Centre

Gender Dynamix

Gender Health and Justice Research Unit, University of Cape Town

OUT LGBT Well-Being

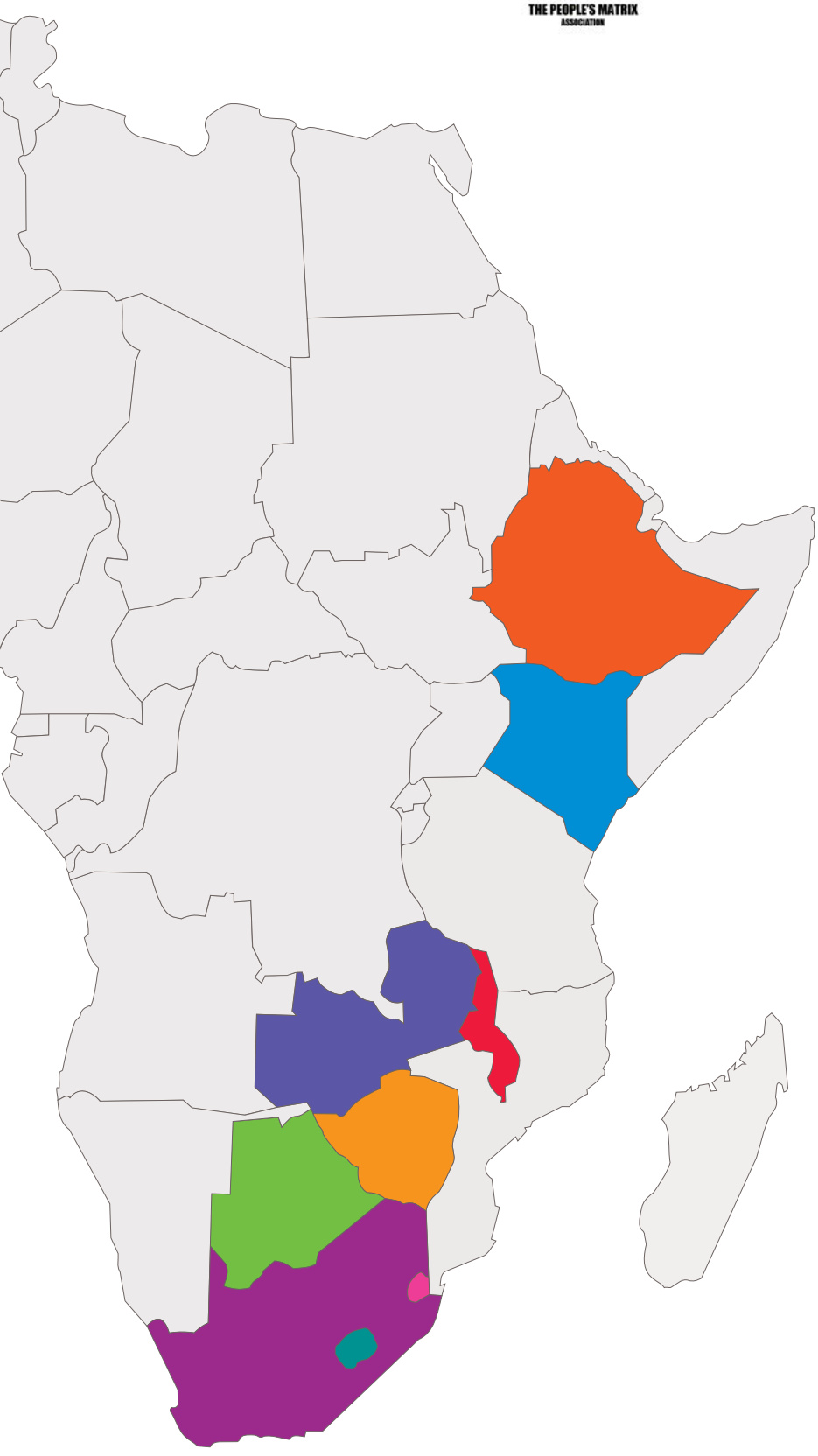
Triangle Project

Lesotho

The People's Matrix Association

Ethiopia

Two organisations (names withheld)



Kenya

Ishtar-MSM

Jinsiangu

Maaygo

Minority Womyn in Action

National Gay and Lesbian Human Rights Commission

People Marginalised and Aggrieved

eSwatini

The Rock of Hope

Malawi

Centre for the Development of People

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To conceptualise, coordinate, implement, analyse, write and disseminate a large, multi-site study through collaboration and partnership would not have been possible without the immense support and dedication of many, many people, within and outside of the SEARCH collective.

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This work has truly been the product of queer labour, and whilst the report documents the manifold challenges faced by LGBTI people in East and Southern Africa, it is equally testament to our mutual care, our resilience, resourcefulness and agency.

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LIST OF ACRONYMS

ACHPR	African Commission for Human and People's Rights
AOR	Adjusted odds ratio
AUDIT	Alcohol Use Disorders Identification Test
CBPR	Community-based participatory research
CEDEP	Centre for the Development of People
CES-D10	10-item Centre for Epidemiological Studies Depression Scale
CI	Confidence interval
COC	Cultuur en Ontspanningscentrum (Center for Culture and Leisure)
DSM	Diagnostic and statistical manual of mental disorders
DUDIT	Drug Use Disorders Identification Test
EDMS	Electronic Data Management System
GAD-7	Generalized Anxiety Disorder 7-item scale
GALZ	Gays and Lesbians of Zimbabwe
GATE	Global Action for Trans* Equality
GHJRU	Gender Health and Justice Research Unit
GNC	Gender non-conforming
HCT/ HIV VCT	HIV voluntary testing and counselling
ICD	International Classification of Disease
LGBT	Lesbian, Gay, Bisexual and Transgender
LGBTI	Lesbian, Gay, Bisexual and Transgender and Intersex
MSM	Men who have sex with men
NGLHRC	National Gay and Lesbian Human Rights Commission
NGO	Non-governmental organisation
n	Sample size
p	p value
SGM	Sexual and gender minority
SOGI	Sexual orientation and gender identity
SOGIE	Sexual orientation and gender identity and expression
SRC	Sexual Rights Centre
STI	Sexually transmitted infection
TBZ	Trans Bantu Zambia
UCT	University of Cape Town
US	United States
WHO	World Health Organization
WSW	Women who have sex with women

REPORT SUMMARY

This report presents research findings on the mental health and well-being of lesbian, gay, bisexual, transgender and intersex (LGBTI) people in Botswana. It also presents findings on LGBTI people's experiences of violence, and experiences in accessing healthcare.

It is part of a series of reports based on research in nine countries of Southern and East Africa: in Botswana, Ethiopia, Kenya, Lesotho, Malawi, South Africa, eSwatini, Zambia and Zimbabwe. The research was done collaboratively by a consortium of non-governmental organisations (NGOs), academic researchers from the University of Cape Town, and COC Netherlands who funded the project and provided logistical support.

Across those nine countries, we used a standardised questionnaire to survey 3,796 people, and ask about physical and sexual violence, depression, anxiety, suicidality and substance use, as well as experiences of discrimination when accessing healthcare.

The findings give us a sense of the precarious state of LGBTI people's mental health and well-being in East and Southern Africa, and the high levels of violence that LGBTI people experience: compared to what we know from the general population, LGBTI people have higher levels of mental health concerns, have experienced more violence, and have faced barriers to healthcare that are directly linked to their sexual orientation, gender identity or gender expression.

Our findings show that in the nine countries of this study, as elsewhere in the world, discrimination, stigma and marginalisation related to sexual orientation, gender identity and gender expression place LGBTI people at higher risk for mental health concerns and violence.

Introductory comments

Over the last two decades research on lesbian, gay, bisexual and transgender persons, health and violence has highlighted substantial vulnerabilities and health disparities based on sexual orientation, and gender identity and expression in many parts of the world. There is growing awareness of the broad ranging negative consequences of stigma, marginalization and discrimination on the health of people who identify as, or are perceived to be, lesbian, gay, bisexual, transgender and gender diverse (LGBT) (Mayer *et al.*, 2008; Institute of Medicine, 2011; Logie, 2012; Pega and Veale, 2015). For example, in a recent landmark report on LGBT health (Institute of Medicine, 2011), the United States Institute of Medicine pointed out that LGBT people are at increased risk of violence, harassment, and victimization. These findings underscore the link between stigma, marginalization and discrimination and corroborate that sexual orientation, gender identity and expression are important determinants of vulnerability and health (Logie, 2012; Pega and Veale, 2015).

LGBT people are not a homogenous population. The acronyms LGBT or LGBTI ("I" for intersex[1]) group individuals together based on similar experiences of discriminatory treatment in society because they fall outside of social norms about sexuality and gender, due to their sexual orientation, gender identity, gender expression, and/or sex characteristics. While this is helpful to analyse the consequences of marginalization, it is important not to assume that individuals under this umbrella acronym necessarily have similar experiences or needs. In fact, individual experiences differ greatly across the populations covered under the acronym. Thus, the populations represented by each individual letter in the acronym are complex and heterogeneous, even more so when differences in race, age, ability, religion, culture, socioeconomic class, and geographic location are also taken into account. In this report, we use the acronym LGBTI in order to point to similar experiences of stigma, marginalization and discrimination based on sexual orientation, gender identity, gender expression and sex characteristics in heteronormative societal frameworks. However, frequently we disaggregate this umbrella into its constituent groups in order to highlight specific characteristics and differences.

Until 1973, the American Psychological Association considered same-sex orientation, attraction, and behaviour (formerly referred to narrowly as homosexuality) to be a mental illness. It is now widely recognised that what is considered a mental illness depends on what society and scientists at a certain time and in a certain context agree to be 'abnormal' behaviours, cognitions and emotions (Gergen, 2001). Today, international medical and health organisations, such as the World Psychiatry Association have clearly stated that same-sex orientation, attraction, and behaviour are not mental illnesses, and that attempts to 'treat' same-sex sexual orientation are harmful and without evidence of success (Bhugra *et al.*, 2016). The South African Society of Psychiatrists agrees that "there is no scientific evidence that reparative or conversion therapy is effective in changing a person's sexual orientation. There is, however, evidence that this type of therapy can be destructive" (Victor *et al.*, 2014). Further, in 2015 a panel of experts from the Academy of Science of South Africa, endorsed by the Uganda National Academy of Sciences, condemned the use of 'conversion' therapy and called for widespread interventions to generate support for LGBTI people, particularly among healthcare providers (Academy of Science of South Africa, 2015).

Gender variance or diversity (formerly called non-conforming or transgender gender identity), unlike same-sex sexual orientation, remains classified as a mental illness by the American Psychological Association. Many argue that this is for the same reasons that same-sex sexual orientation was once classified as a mental illness (Drescher, 2015), and that gender variance is not pathological (Kara, 2017; Suess Schwend *et al.*, 2018). In the process of revising the International Classification of Disease (ICD), the World Health Organisation is thus proposing to remove the diagnosis related to gender variance from the list of mental health conditions (De Cuypere and Winter, 2016; Robles *et al.*, 2016; World Health Organization, 2018a).

1 People with diverse sex characteristics, (also referred to as 'intersex') share similar experiences of discrimination and marginalisation as people with non-normative sexual orientations, gender identities and expressions. Additionally, people with diverse sex characteristics often have experienced forced genital mutilation by healthcare providers, and experience the physical, psychological and emotional consequences thereof. It was outside the scope of this research project to investigate these forced treatments. We strongly recommend that specific research into forced genital mutilations, and the impact of those on people with diverse sex characteristics, be done.

Diversity in sex characteristics (formerly called 'intersex'), like gender variance, remains classified as a pathological condition in the current classification of disease (World Health Organization, 2018b). Like for gender variance, many argue that this is a reflection of social attitudes towards diversity in sex characteristics, that such diversity is not per se pathological, and that regarding diversity of sex characteristics as a pathology increases the vulnerability of people to forced genital surgery, which is recognised as unlawful (GATE, 2017).

Sexual orientation, gender identity and expression and minority stress

Now that it is widely understood that same-sex sexual orientation and gender variance are not mental illnesses themselves, researchers have started to look at the mental health and well-being of people who identify as lesbian, gay, bisexual, transgender and intersex. Whilst this work is largely based in the US, the circumstances of minority stress for people on the African continent may not be all that different, and it is useful to know about the work that has already been done in the US in order to contextualise and interpret the findings of this report.

Researchers have found that compared with their heterosexual, cisgender counterparts, sexual and gender minority[2] populations suffer from more mental health problems, such as substance use (including alcohol, tobacco and illegal drug use), affective disorders (for example, depression and anxiety disorders) and suicide (Meyer, 2003; Hendricks and Testa, 2012; Bockting *et al.*, 2013a). The reason for these disparities in mental health outcomes is that stigma (widespread disapproval held by many people in a society), prejudice, discrimination and structural stigma (social stigma that is institutionalised or made into law, such as laws that criminalise consensual same-sex behaviour), lead to stressful social environments for sexual and gender minorities (Meyer, 2003; Hendricks and Testa, 2012; Hatzenbuehler *et al.*, 2014). This is called minority stress.

Meyer (2003) points out that minority stress adds to general stress that all people experience. It is chronic – that is it lasts a long time, or a person's entire life, as it is linked to underlying social and cultural norms (and stigma) that are relatively stable and only change slowly, if at all. Lastly, minority stress is socially based – that means it stems from social processes, institutions and structures (for example, laws that criminalise consensual same-sex activity), and not from individual events (such as change in financial circumstances, or death of a loved one).

Meyer (2003) also explains how minority stress affects people with same-sex sexual orientation, attraction, and behaviour, and suggests that there are four different processes that contribute to minority stress and mental health problems among sexual minorities. First, chronic and acute events or social circumstances might add to stress. This might include experiences of discrimination in healthcare facilities or schools, or being insulted or harassed in private or public. Second, expecting such stressful events, and guarding oneself against them, also leads to stress (regardless of whether or not the discriminatory encounter actually happens). Third, hearing negative, discriminatory attitudes means that people internalise the idea that they have less value. And forth, hiding one's sexual orientation in anticipation of discriminatory events further contributes to stress.

2 For the purposes of this report, gender minority people are those who do not identify as cisgender, and are inclusive of the following: those who self-identify as transgender, gender non-conforming (GNC) or non-binary, have a different gender identity from what was assigned to them at birth, and/or identify as intersex.

Hendricks and Testa (2012) explain how minority stress affects gender minority people, and argue that the same factors shape minority stress for this group. That is, as with same-sex sexual orientation, it is not gender variance itself that is a mental illness, but that, essentially, "hostile and stressful social environments" (p. 462) lead to an increase in mental health problems among gender minority people.

Sexual orientation, gender identity and expression and structural stigma

Stigma against same-sex orientation and gender variance is one of the key factors that underlie the stressors in the minority stress model. A recent study built on the work by Meyer (2003) and Hendricks and Testa (2012) and examined the impact stigma has on the health and well-bring of sexual minority[3] people. This study specifically looked at the impact of structural stigma, defined as social prejudice against lesbian, bisexual and gay people at the community level. This study found that sexual minorities who lived in areas with high structural stigma in the United States were three times more likely to die from homicide and violence-related deaths, when compared to sexual minority people living in areas with low structural stigma (Hatzenbuehler *et al.*, 2014), though this was later shown not to be statistically significant (Hatzenbuehler *et al.*, 2018). The study also showed that sexual minorities in high-stigma areas were more likely to die from suicide. Additionally, those who died from suicide in high-stigma areas were on average 18 years younger than those who died from suicide in low-stigma areas. This confirmed the findings of an earlier study that showed that lesbian, gay and bisexual youth in areas with high anti-gay prejudice were more likely to attempt suicide (Hatzenbuehler, 2011).

The authors of the earlier study pointed out similarities to other forms of minority status and structural stigma, and concluded that structural stigma also includes laws that criminalise, or restrict, the activities or identity of a minority group. One example are American laws that enforced racial segregation in some American states until the 1960s. A study that looked at the health consequences of structural stigma among Black people found that states with laws that enforced racial segregation had higher death rates of Black people (Krieger, 2012). Recent studies from the United States show that sexual orientation-related discriminatory laws and policies – laws and policies that deprive sexual minorities of certain rights (for example, the right to marry) – contribute to higher levels of mental health problems among sexual minority populations (Hatzenbuehler, Keyes and Hasin, 2009; Hatzenbuehler *et al.*, 2010). This is significant in the context of Southern and East Africa, where many countries have retained British colonial laws that criminalise consensual same-sex activity (Ambani, 2017), and thus discriminate against sexual and gender minority populations (Carroll and Mendos, 2017).

The findings that we present in this report demonstrate that, much like what we know from other contexts, sexual orientation and gender identity seem to be an influencing factor for people's mental health and well-being, for their experiences of violence and for their access to healthcare.

3 For the purposes of this report, sexual minority people are those who do not identify as heterosexual, and are inclusive of the following: those who self-identify as lesbian, bisexual, gay, queer, pansexual, anyone who feels sexual attraction to, or has had sexual experiences with, a partner or partners of the same sex or gender, even if they self-identified as heterosexual, 'men who have sex with men' (MSM), and/or 'women who have sex with women' (WSW)

Similar to what researchers have observed in other parts of the world (Meyer, 2003; Mayer *et al.*, 2008b; Institute of Medicine, 2011b), we found disparities in health status between the LGBTI people participating in this study and data that exists for the general population: LGBTI people showed higher levels of mental health problems, experienced higher levels of violence and more barriers when accessing healthcare services. Drawing on the existing evidence on the impact of minority stress (Meyer, 2003) and structural stigma (Hatzenbuehler *et al.*, 2014), we argue that these disparities are due to the stigma, prejudice and social exclusion that LGBTI people experience due to their sexual orientation and/ or gender identity.

The structure of this report

This report consists of four sections. The first section is this introduction. The second section gives information about the methods we used in our study. We then move on to the third section to present our findings for the specific country under consideration: Botswana. We first describe the socio-political context in which LGBTI people live. We then describe the research findings: first we describe the group of participants, then we describe the findings on health-seeking behaviour. We then describe the findings on experiences of violence, and after that describe the mental health outcomes of depression, anxiety, alcohol use, drug use, tobacco use and suicidality. When describing these findings, we compare our findings to what we know from studies with LGBTI people in other parts of the world, and to what we know about the general population in the specific country that the study was conducted in. Following this, we present an overview of the mental health outcomes for each specific population: for lesbian women, for gay men, for bisexual women and men, as well as for transgender people (including transgender women, transgender men and gender non-conforming people). This serves as an easy reference for anybody interested in population-specific health concerns. The forth section of the report provides recommendations for governments, non-governmental organisations, academic researchers and international and national donors. In the appendices, we provide more detailed information about our methodology, and include the survey instrument.

METHODOLOGY

This section describes how we conducted the study. We explain how we planned the study, what questions we asked, and what we did with the data that we collected. We also provide details about who officially approved the study in the nine countries that we conducted it.

Participatory approach

For this study, we followed a community-based participatory research (CBPR) approach. Community-based research is a partnership approach to research that involves community members and academic researchers as partners in all stages of the research process. In this way, all partners can contribute their knowledge and skills, can decide jointly on what to research, how to do it, and what to do with the research findings. It also means that all partners share the responsibility and the ownership of the process and the research findings (Israel *et al.*, 1998).

CBPR is a well-used approach for studies that explore health-related disparities, particularly among marginalised communities, such as people of colour, or people living in poverty (Israel *et al.*, 2010). Because it directly involves communities as co-researchers, it is an excellent approach to examine the social context of health concerns (Leung, Yen and Minkler, 2004). Because it emphasises that power is shared between researchers and the community, and because it focuses on action based on the research findings, it also helps to minimise the understandable distrust of academic research that often exists among marginalised communities, who may see academics as mining information or misrepresenting them (Israel *et al.*, 2010).

The 23 community partner organisations for this study are listed in Table 1. The academic partner was the Gender Health and Justice Research Unit at the University of Cape Town in South Africa. Additional academic partners were Dr Chelsea Morroni from the University of Botswana; Prof Adamson Muula from the College of Medicine, University of Malawi; Sindy Matse from the National AIDS Council in the Ministry of Health of eSwatini and Nelson Muparamoto from the University of Zimbabwe. The project was funded by COC Netherlands, who also provided logistical support throughout the process.

TABLE 1: Community partner organisations

Country	Partner Organisations
Botswana	
	Bonela
	LeGaBiBo
	Rainbow Identity Association
Ethiopia	
	Names of the two organisations withheld for safety reasons
Lesotho	
	The People's Matrix Association
Kenya	
	Ishtar-MSM
	Jinsiangu
	Maaygo
	Minority Womyn in Action
	National Gay and Lesbian Human Rights Commission (NGLHRC)
	Persons Marginalised and Aggrieved (PEMA)
Malawi	
	Centre for the Development of People (CEDEP)
South Africa	
	Durban Gay and Lesbian Community and Health Centre
	Gender Dynamix
	OUT LGBT Well-Being
	Triangle Project
Swaziland	
	The Rock of Hope
Zambia	
	Friends of Rainka
	Trans Bantu Zambia (TBZ)
	The Lotus Identity
Zimbabwe	
	Gays and Lesbians of Zimbabwe (GALZ)
	Sexual Rights Coalition (SRC)

Study design

Design of study aims

In October 2015, COC Netherlands held a consultative meeting with the community partner organisations and researchers from the Gender Health and Justice Research Unit (GHJRU) at the University of Cape Town. At that meeting, partner organisations identified the gaps in current research and knowledge on LGBTI people's health in the Southern and East African region. Additionally, the partner organisations, GHJRU researchers and COC discussed what study design would be best suited and discussed strategies for sampling and recruitment. These discussions identified a number of areas where more research was needed to better understand LGBTI health concerns. To address all of these areas was beyond the scope of this research project. We ranked all research needs that were identified and decided to focus on the top three: mental health and well-being, experiences of violence, and access to healthcare services.

Based on the discussions with the partner organisations, the GHJRU researchers drafted the study design. After all community partners, as well as COC Netherlands, provided feedback on our suggested study design, we finalised the study protocol and developed a survey questionnaire. Because there is currently little or even no research evidence on LGBTI people's mental health and well-being in our Southern and East African context, this project is an important opportunity to develop baseline data. For this reason, we developed a survey that could be used in all study countries, in order to compare findings across countries.

The survey

We reviewed national and international academic literature on how to measure mental health and well-being amongst LGBTI populations, specifically in Southern and East Africa. Based on these findings, we developed a draft for the survey we wanted to use in the study. We held two meetings with the community partner organisations and COC Netherlands to discuss the scope and wording of questions in the survey, and we revised the draft based on the feedback we received.

In each meeting, we held a group session to review the survey question by question and adjust the aims and wording of each section and question. As a team, we agreed to make small changes to standardised scales that measure mental health outcomes. While we wanted to create a single survey that could be used in all countries, in some instances we changed the wording of some of the questions for specific countries, so that participants would understand them better (for example, "apartment" versus "flat").

Once we had made all the suggested changes, we sent the survey to all community partner organisations and COC for a final round of feedback. Based on this last feedback, we finalised the survey.

Question design

All questions on the survey had categorical answers (answers that would organise participants into groups (categories), for example people who lived in Botswana, people who lived in Kenya, people who lived in South Africa, etc.). Only age, and number of cigarettes smoked per day were measured as continuous variables (information that can be measured on a scale or counted). For

many questions, we added an "Other, specify" option, so that participants could write or type additional/different information.

Socio-demographic measurement

We asked a number of questions to learn about participants' socio-demographic circumstances. These included age, religion, education, housing, employment, race, and financial security (assessed by the question "On average do you have enough money to cover your basic needs?"). We created a variable to look at housing security, for which we asked participants if they owned their home, rented it, or shared a place with someone without paying rent. We classified participants who shared a place without financially contributing as 'housing insecure' because we hypothesised that they would be more vulnerable to being told to leave if their SOGIE was discovered by other people in the house. People who said they had no home, lived on the street, or lived in short-term accommodation (shelters) were also classified as housing insecure.

Measuring sexual orientation and gender identity

In public health literature, there is no recognised standard definition of sexual orientation or gender identity, nor is there consensus on how to measure them in quantitative studies. Sexual orientation is widely accepted as being comprised of three elements: sexual identity, sexual attraction, and sexual activity. A range of studies have used different combinations of these three elements to define participants' sexual orientation (King *et al.*, 2008). In order to paint a nuanced picture of the participants' sexual orientation, we aimed to assess each of these three elements.

1. **Sexual identity** was assessed by asking participants "In terms of your sexual orientation, how do you identify?" (Options: Lesbian, Bisexual, Gay, Heterosexual, Asexual, "Other, specify")
2. **Attraction** was assessed by asking participants who they were sexually and emotionally attracted to (2 questions).
3. **Sexual activity** was assessed by asking participants about who they have had "sexual experiences with in the past year and their lifetime" (2 questions).

For attraction and sexual activity, the questionnaire gave participants a list of options from which they could select all that applied (Options: With women, with men, with trans women, with trans men, with gender non-conforming people, with intersex people, "I have not had sexual experiences", "Other, specify").

There is also no standardised way of asking participants about gender identity. We decided to combine three questions:

1. **Gender identity** was assessed by asking "In terms of your gender identity, how do you identify?" (Options: Woman, Man, Trans woman, Trans man, Gender non-conforming, "Other, specify").
2. We asked about **sex assigned at birth** (Options: Male, Female, Intersex)
3. Additionally, we asked what sex/ gender was recorded in the participant's identity document(s)

Based on participants' answers to these questions, we created categories for sexual orientation and gender identity. For sexual orientation, these were: lesbian, gay, bisexual, 'non-normative', and heterosexual. For gender identity, they were: cisgender women, cisgender men, transgender women, transgender men and gender non-conforming people. We use these categories to disaggregate the findings about experiences of violence and mental health outcomes. To create these categories, in some instances we had to re-code the way participants self-identified, based on the other information they provided in the questions about their sexuality and gender identity. The detailed algorithm for this re-coding is explained in Appendix 1.

Intersex participants

In our study, very few participants identified themselves as "intersex." Such small numbers make it difficult to draw statistical inferences about the data. For this reason, while the intersex participants are still included in the overall findings reported here, we do not disaggregate by intersex identity.

Measuring social support

We asked three questions about participants' social support: "Who do you go to when you need someone to talk to about problems in your life?", "Who in your life knows that you are LGBTI?", and "Of those, who have you told yourself about being LGBTI?" We combined the last two questions, to have an indicator of whether participants are 'out' in their social context.

Health-seeking behaviour and access to healthcare

We developed a number of general questions to ask about what kind of healthcare participants used, and where. Additionally, we adapted questions about experiences of discrimination in healthcare from other studies with LGBTI people (Bazargan and Galvan, 2012; Cruz, 2014; Calton, Cattaneo and Gebhard, 2015).

Measuring mental health and well-being

To measure depression and anxiety, as well as drug and alcohol use, we used internationally used and recommended scales. We chose scales that had been used in research on the African continent (specifically the countries in this study), and, if possible, that had been used in research with LGBTI people (anywhere in the world). However, there was little information about whether scales had been used with LGBTI populations (King *et al.*, 2008; Myer *et al.*, 2008; Chishinga *et al.*, 2011). We also considered the ease of understanding and potential ease of translation to other languages when choosing scales. Based on all these considerations, we used the following scales:

- The CES-D 10 (Center for the Epidemiological Studies of Depression Short Form) to measure depression. It is widely used to screen for signs of depression in primary care settings, and is often used for research on the prevalence of depression. It is important to keep in mind, however, that we cannot diagnose people using the CES-D 10. In order to receive a definitive diagnosis of clinical depression, an individual needs to see a healthcare provider.
- The Generalized Anxiety Disorder 7-item scale (GAD-7) to assess signs of anxiety that participants may have had in the last two weeks.
- The Alcohol Use Disorders Identification Test (AUDIT) to assess whether an participant's alcohol use is harmful.

- The Drug Use Disorders Identification Test (DUDIT) to assess if a participant's drug use is harmful.

To ask about suicide, we reviewed literature about LGBTI health to develop suicidality measures (Haas *et al.*, 2010; Marshall *et al.*, 2016).

In Appendix 1, we provide more detail on the scales and how we used the data we collected.

Measuring violence

We developed the questions that asked about experiences of violence based on the GHJRU's previous work in violence research. Additionally, we reviewed literature about intimate partner violence among LGBTI people (Calton, Cattaneo and Gebhard, 2015). We asked a series of "yes/no" questions about experiences with verbal harassment, emotional violence, physical violence ("Have you been physically assaulted?"), and sexual violence ("Have you been sexually assaulted?"). For physical and sexual violence, we asked about experiences in the last 12 months and in participants' lifetime. For participants who reported lifetime experiences of violence, we asked about three signs of post-traumatic stress based on the current *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) of the American Psychiatric Association. These are: flashbacks or nightmares reliving the event; avoiding situation/people reminding them of the violent incident; jumpiness, irritability or restlessness following the incident (American Psychiatric Association, 2013).

Translations

The survey was translated into the following languages: Amharic, Chichewa, isiNdebele, Sesotho, Setswana, Shona, Siswati and Swahili. These translations were done by professional translators, and then reviewed by the community partner organisations. The changes that the partner organisations suggested were discussed with the professional translator, and incorporated into the final translated versions.

Fieldworker training

Each community partner organisation had a designated research coordinator and a research assistant. These two were responsible for training and overseeing fieldworkers, who collected data by handing out surveys to participants. We (the GHJRU researchers) trained the research coordinators and assistants in a three day 'Train the trainer workshop'. The training included information on research processes, how to make decisions about study design and methodology, best practices in data collection, research ethics and participant protection, as well as discussions about data analysis and the use of data once the study is over. We wrote a fieldworker manual, so that research coordinators and assistants would have the information from the training on hand. When organisations decided to employ additional fieldworkers, they were trained by the research coordinator.

Who could participate in the survey?

Eligibility to participate in the survey was defined by age, sexual orientation, and gender identity.

- **Be of adult age:** all participants needed to self-identify as being age 18 or older
- **Self-identified as LGBTI**: Participants were required to either not identify as heterosexual (and therefore be a sexual minority/member of the LGBTI community) or not be cisgender (and therefore be a gender minority, for example, transgender). Included in gender minorities are people with diverse sex characteristics (or who identified as intersex). We asked participants to self-identify. In the informed consent statement, we gave the following categorisations or identities as prompts to help potential participants determine their eligibility: gay, lesbian, bisexual, transgender, transsexual, transman, transwoman, intersex, queer, genderqueer, gender non-conforming, pansexual, omnisexual, men who have sex with men (MSM), women who have sex with women (WSW), kuchu.

Our study did not use a comparison group—that is, we did not survey people who identify strictly as heterosexual and cisgender. While this limits our ability to compare our findings about sexual and gender minority people with heterosexual and cisgender people, we draw on research with the general population to discuss possible differences between LGBTI people and heterosexual, cisgender people.

Sampling methodology

We combined two sampling methods to find research participants: community-based sampling and online-based sampling. This means that partner organisations would find participants at their events, or during their outreach activities, and also disseminate a link to an online version of the survey. In Appendix 1, we discuss in more detail why we chose these methods.

Neither of these two sampling methods allow us to draw inferences beyond the constituency population, meaning we will not be able to make predictions about larger LGBTI populations across the country or region. The findings from our study are therefore not representative of all LGBTI people in the participating countries, although they do give us an indication of what some of the problems affecting LGBTI people in these contexts maybe.

Each partner organisation aimed to enrol 200 participants. The numbers of participants in each country were therefore determined by the number of partner organisations in that country. In total, we analysed data from 3,796 participants. Table 2 shows the number of participants in each country. In Appendix 1, you will find a more detailed breakdown by country and organisation.

TABLE 2: Number of participants, by country

Country	Number of participants
Botswana	618
Ethiopia	198
Kenya	976
Lesotho	173
Malawi	197
South Africa	832
eSwatini	103
Zambia	353
Zimbabwe	346
TOTAL	3,796

Collecting data

As part of the participatory design of this project, each partner organisation designed an individual plan for recruiting participants, based on the recruitment plan that we have explained above. Organisations used a range of methods, including: promotion of the online survey through a facebook advert, promoting the survey among people who came for services at their office, recruiting through personal and professional networks of the fieldworkers.

The partner organisations used a mix of self-administration and fieldworker-administration to collect the data. **Self-administration** meant that the participant read the survey to themselves and filled it out on their own. **Fieldworker-administration** meant that a fieldworker read the questions to the participant.

Because questions about mental health, violence and experiences of discrimination might bring up traumatic memories or distress to people, all participants had access to psychosocial support, both during the data collection process and afterwards. In some organisations, this was provided by counsellors within the organisations, in others, through referrals to LGBTI-affirming counsellors outside of the organisation. All fieldwork teams held regular debriefing sessions for the fieldworkers, who also had access to the same psychosocial support services.

Pilot study

Before finalising the questionnaire, we conducted a pilot study in South Africa, the first country to implement data collection. The purpose of the pilot was to identify questions that should be added or removed, rephrased, or otherwise adjusted. The pilot study showed us a few questions that we needed to change in order to make the survey as easy to understand as possible. Once we made these changes, the questionnaire was considered final. We made no more changes to it during the study.

Analysing data

We entered all survey data into an online database called REDCap, an electronic data management system by Vanderbilt University, and then analysed it with the software Stata15. We ran descriptive statistics and measured associations between differences that we found among the participants in our sample. Where data was missing because participants had not answered a question, we used a method called 'multiple imputation'.

For many key outcomes in this report, we report statistics for subgroups of the overall sample. We use this approach to highlight times when specific subgroups may be particularly vulnerable due to historical and persistent socio-economic disparities and oppression. However, we could only do this in countries where the size of the overall sample and subgroup were large enough to examine meaningfully.

Appendix 1 has more detailed information on our data analysis.

Research approvals and regulatory compliance

The study was approved by the University of Cape Town's Faculty of Health Sciences Human Research Ethics Committee. Additionally, it was approved by national ethics or health regulatory bodies in each country (Table 3). In accordance with the guidelines for research on sexual and gender minorities' health in rights-constrained environments and established best practices (amfAR, 2015; Amon *et al.*, 2012), in countries where obtaining regulatory approval would have significantly increased risks for our community partner organisations and/or research participants, we constituted a review board of community members to evaluate the risks and benefit of the study. This was overseen and approved by the University of Cape Town's Faculty of Health Sciences Human Research Ethics Committee. We only enrolled participants who provided informed consent.

TABLE 3: Research approvals

Country	Approval authority and reference number	Reference number
Botswana	Review Board, Office of Research and Development, University of Botswana Ministry of Health and Wellness, Republic of Botswana	UBR/RES/IRB/BIO/009 HPDME: 13/18/1
Ethiopia	Approval through community review board	-
Kenya	Kenya Medical Research Institute	KEMRI/RES/7/3/1
Lesotho	Research and Ethics Committee, Ministry of Health, Lesotho	ID94-2017
Malawi	University of Malawi, College of Medicine Research and Ethics Committee	P.01/18/2330
South Africa	University of Cape Town Faculty of Health Sciences Human Ethics Research Committee	HREC 012/2016
eSwatini	Scientific and Ethics Committee, Ministry of Health and Social Welfare, Kingdom of Swaziland	no reference number
Zambia	Approval through community review board	-
Zimbabwe	Medical Research Council of Zimbabwe	MRCZ/A/2303

FINDINGS IN BOTSWANA

Sexual orientation, gender identity and expression in Botswana

The Republic of Botswana became independent from Britain in 1966. Botswana has a population just over 2 million people, which makes it one of the sparsest populated countries in the world. Over 10% of Botswana's population live in Gaborone, the capital. Despite its small population, Botswana has one of the strongest economies on the African continent.

The Bill of Rights of the constitution of Botswana guarantees fundamental rights and freedoms to all persons in Botswana. Emphasising this, Botswana has also signed a number of international treaties that guarantee fundamental rights, such as the Universal Declaration of Human Rights, the African Charter on Human and People's Rights, and the International Convention on Civil and Political Rights.

At national level, Botswana's Penal Code retains provisions inherited from the period of British colonisation. Like elsewhere in Southern and East Africa, these provisions criminalise sex between persons of the same sex or gender in Sections 164, 165 and 167. The provisions initially criminalised sex between two men, but a revision of the Penal Code in 1998 expanded Section 167 to make it 'gender-neutral'. Thus, the Penal Code now also criminalises sex between two women.

At the same time, the government of Botswana has followed a steady trajectory to protect the rights of sexual and gender minority persons (Republic of Botswana: Ministry of Health and Wellness and United Nations Development Program (UNDP), 2017). For example, in 2010 the government passed the *Employment (Amendment) Act* which prohibits dismissal on the basis of sexual orientation. The *Second National Strategic Framework for HIV and AIDS* 2010-2017/2018 specified that a guiding principle of the national response to HIV is upholding human rights "by promoting dignity, non-discrimination and welfare of all people, whether infected or affected by HIV and AIDS and ensuring equal access to health and social support services regardless of […] *sexual orientation* […]." Following a number of court cases that extended the existing rights to persons who identify as sexual and gender minorities, the government of Botswana committed to implementing such court decisions, and undertook to engage in an ongoing review of national laws "to address discrimination of marginalised and disadvantaged groups in society such as […] *lesbians, gays,*

bisexuals, transgender and/or intersex persons" (Republic of Botswana, 2018). In 2017, a law suit that challenges Sections 164, 165 and 167 of the Penal Code as unconstitutional was brought to the High Court of Botswana. In March 2019, the case was heard by a panel of three High Court judges. At the time of writing this report, the judges had not yet delivered their judgment.

Despite these changes at law and policy level, existing evidence clearly shows that lesbian, gay, bisexual and transgender persons in Botswana experience high levels of stigma, discrimination, violence and other human rights violations in their daily lives (Muzenda, 2016; United Nationals Development Programme, Southern African Litigation Centre and Lesbians Gays and Bisexuals of Botswana, 2018).

The study population: sample characteristics

In Botswana, we collected survey data both on paper and online, through REDCap, an electronic data management system. Participants filled out surveys by themselves (self-administration) or with the assistance of a fieldworker (fieldworker-administration).

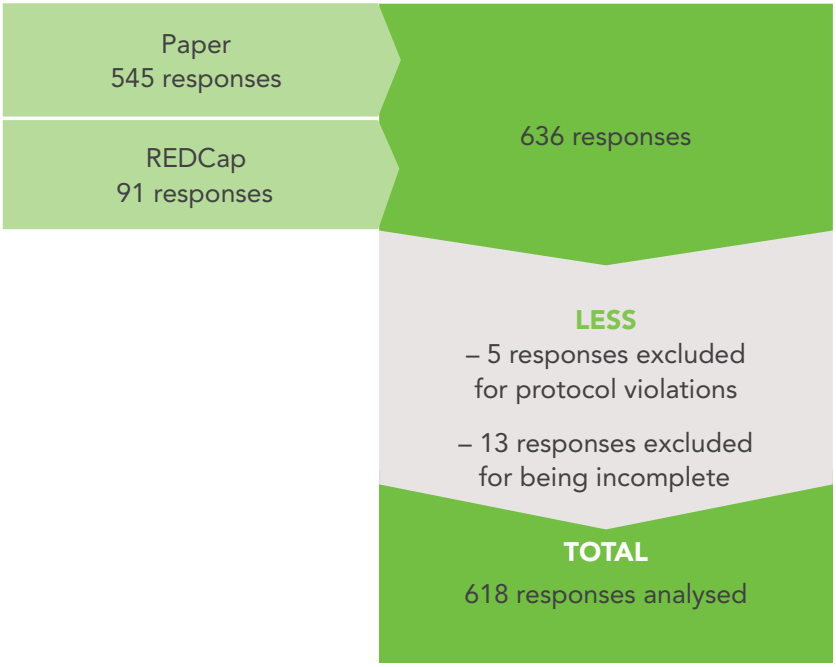
FIGURE 1: Map of data collection

On paper, a total of 542 surveys were filled out through the three Botswana partner organisations (see Figure 1 for more information on where data were collected). In an additional 3 paper surveys that were completed in Kenya, participants indicated they lived in Botswana. These 3 participants have been included here for a total of 545 paper responses. An additional 91 surveys from Batswana participants were collected through the online survey in REDCap.

Of the total 636 surveys, 5 violated the research protocol (protocol violations) because they either did not document informed consent or the respondent was not eligible (for example not 18 years old or older). Surveys with these violations were excluded from our final sample in analysis.

Some participants began the survey but did not completely fill it out. We decided to exclude anyone who did not reach the 'outcomes' section of the survey. For this reason, an additional 13 participants were excluded from the sample, leaving a final sample of 618 participants for analysis (Figure 2).

FIGURE 2: Botswana: participant sample



We do not report on the number of participants who were approached for participation but who declined or were ineligible. These participants did not fill out the survey.

We therefore analysed 618 participant responses from Botswana. Of these, 476 (77%) filled out the survey on their own, and 141 (23%) filled it out with the help of a fieldworker. Eighty-seven percent of the surveys were answered on paper and 13% were answered on REDCap. When REDCap was used, this was sometimes with a fieldworker using a tablet for data collection and sometimes through online recruitment where participants filled out the survey themselves by accessing the survey website. Different methods of data collection were used by different partner organisations (Table 4). As the link to the survey on REDCap was shared on Facebook and other social media, not all REDCap responses could be linked to a partner organisation (Table 4).

TABLE 4: Methods of data collection among Botswana partner organisations

Data collection method (n=615)									
Partner organisation	Paper, fieldworker -administered		Paper, self-administered		REDCap, fieldworker -administered		REDCap, self-administered		
	n	%	n	%	n	%	n	%	TOTAL n
BONELA	49	21.97	172	77.13	0	0.00	2	0.90	223
LeGaBiBo	82	48.81	75	44.64	1	0.60	10	5.95	168
Rainbow Identity	4	1.81	152	68.78	4	1.81	61	27.60	221
Other	0	0.00	3	100.00	0	0.00	0	0.00	3

Sociodemographic characteristics

Table 5 shows detailed information about participants' demographics (characteristics of the sample). The median age was 26 years, with the youngest participant being 18 years old, and the oldest 52 years old. Just under half of participants lived in urban areas (47%), 35% lived in peri-urban areas (urban outskirts), and 17% lived in a rural area. The majority of participants listed Christianity as their faith (80%).

TABLE 5: Sociodemographic characteristics

	n	%
Age group	(n=605)	
18-24	242	40.00
25-34	306	50.58
35-44	53	8.76
45-54	4	0.66
Race	(n=614)	
Black	572	93.16
White	9	1.47
Coloured	28	4.56
Other	5	0.82
What type of area do you live in?	(n=610)	
Urban	289	47.38
Semi-urban/Peri-urban	214	35.08
Rural	107	17.54

	n	%
Religious beliefs*	(n=618)	
African tradition	35	5.66
Islam	12	1.94
Christianity	496	80.26
Rastafarianism	5	0.81
Judaism	4	0.65
Not religious	60	9.71
Other, specify	9	1.46

*More than one answer possible

Sexual and gender diversity / sexual orientation and gender identity

Because only people who identified as lesbian, gay, bisexual or any other non-heterosexual sexual orientation (sexual minorities), and/ or people who identified as transgender, gender queer, non-binary or any other non-cisgender gender identity were allowed to participate in the survey, every participant was a sexual minority and/or a gender minority. To determine participants' specific sexual orientations and gender identities, we asked a range of questions on sexual and emotional attraction, sexual behaviour, sexual identity, gender identity, sex classification at birth and legally assigned sex/gender. Participants' responses reflect the vast diversity of sexual and gender identity (for example, see Table 6).

TABLE 6: Participants' self-identification of sexual orientation and gender identity

Participant self-identified sexual orientation	Participant self-identified gender identity						
	Woman	Man	Trans woman	Trans man	GNC	Missing data	Total
Lesbian	146	13	4	6	14	35	**218**
Bisexual	39	82	2	2	3	16	**144**
Gay	11	168	3	1	2	8	**193**
Heterosexual	4	2	1	5	1	9	**22**
Asexual	2	3	0	0	1	2	**8**
Pansexual	2	0	0	1	0	1	**4**
'Transgender'	0	0	1	0	0	4	**5**
Other	2	15	0	0	2	0	**19**
Missing data	1	1	0	0	0	3	**5**
Total	**207**	**284**	**11**	**15**	**23**	**78**	**618**

Table 6 describes how participants responded when asked how they identify their sexual orientation and gender identity, and therefore describes 'self-identification.' These are the terms that participants chose as most fitting to describe their sexual orientation and gender identity.

It should be noted that in Table 6, we did not categorise participants based on same-sex sexual experiences or the sex they were assigned at birth. Thus, Table 6 reflects only how people self-identified, and does not take into account, for example, people who identify as heterosexual but have had same sex/gender sexual relations, or who identify as man or woman, but were assigned a different sex at birth. We added the categories queer, pansexual, and 'transgender' because they were common responses under the category of other. A total of 18 participants wrote in that they identify their sexual orientation as 'transgender' (16 participants) or 'genderqueer' (2 participants), which are widely understood to be gender identities. We have illustrated this mismatch by listing 'transgender' within quotation marks in the list of sexual orientations.

Throughout this report, we use categories of sexual orientation (lesbian, gay, bisexual, 'non-normative', and heterosexual) and gender identity (cisgender women, cisgender men, transgender women, transgender men and gender non-conforming people) to examine experiences of violence and mental health outcomes. To create these categories, we in some instances re-coded the way participants self-identified. This was to take into account the additional information provided by other items in the survey. We describe the process of re-coding in the section 'Measuring sexual orientation and gender identity' in the previous section of this report.

Sexual minorities

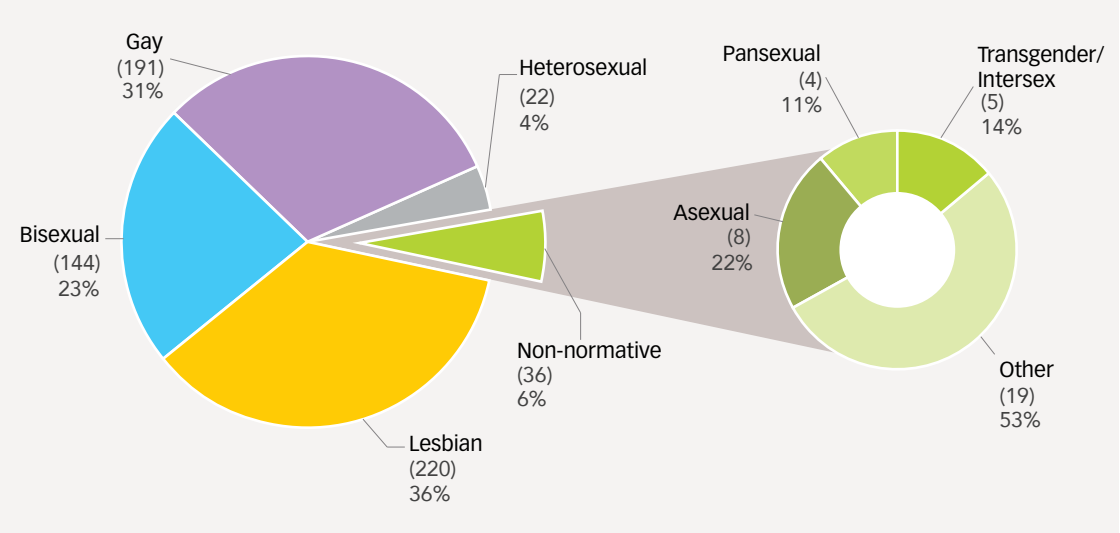
We considered anyone who did not identify as heterosexual to be a sexual minority (see Table 6 and Figure 3), as well as anyone had not had sex in the past year but was exclusively sexually attracted to people of the same sex/gender or had had sexual experiences exclusively with a partner or partners of the same sex or gender in the past year, even if they self-identified as heterosexual (n=22, 4%). In the existing HIV literature, these participants are referred to as 'men who have sex with men' (MSM), or 'women who have sex with women' (WSW) (Young and Meyer, 2005; Baral *et al*., 2009). We decided to use the term sexual minority and not MSM or WSW for two reasons: (1) MSM and WSW are used in research on sexual behaviour and sexual health, and have been criticised for focusing too much on the sexual behaviour of people, while neglecting their relationships, communities and social networks; (2) the alternative term 'sexual minority' highlights people's social marginalisation due to non-normative sexual orientation or sexual practice. Given that our research is about people's mental health and well-being, and does not ask about sexual behaviour or sexual health, 'sexual minority' is more appropriate to highlight the effect of minority status on mental health, well-being, vulnerability to violence and marginalisation in healthcare.

In total, 586 participants (96%) were sexual minorities.

Figure 3 displays participants' sexual orientations. Participants who were classified as gay, lesbian and bisexual made up the majority of the sample. Four per cent of participants identified as heterosexual (note that these participants all identified as a gender minority, so as transgender women, transgender men or gender non-conforming). Six per cent of participants had identified as a range of other sexual orientations (as pansexual, asexual), or noted a gender identity (such a transgender) as their sexual orientation. We grouped these participants in a 'non-normative'

category, which is heterogeneous (full of different identities). Figure 3 breaks down the composition of the 'non-normative' sexual orientation category. Anyone who listed two or more sexual orientations was also coded under 'non-normative'.

FIGURE 3: Participants' sexual orientations



Gender minorities

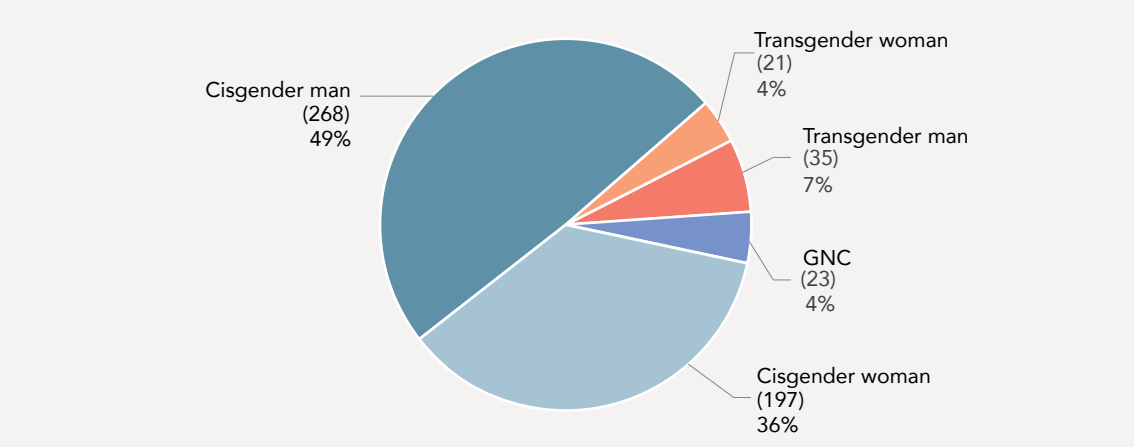
In order to identify gender minority participants, we asked two questions: How did participants self-identify their gender identity (see Table 6), and what sex was assigned to participants at birth. Based on these parameters, we defined gender minority participants as:

1. those who self-identified as transgender women, transgender men, gender non-conforming (GNC) or other; and
2. those whose gender identity was different from the sex assigned to them at birth (n=26, 5%).

In total, 79 participants (15%) were gender minorities.

For this report, we considered those whose reported gender identity was different from the sex assigned to them at birth to be transgender women and men, as appropriate. Figure 4 displays participants' gender identities.

FIGURE 4: Participants' gender identity



For more information about how we recorded sexual orientation and gender identity, see 'Measuring sexual orientation and gender identity' in the Methods section of this report.

Socioeconomic circumstances

Table 7 details participants' socioeconomic status. For many key outcomes in this report, we report statistics for gender minority participants as a subgroup of the overall sample. We use this approach to highlight times when gender minority people, in comparison to cisgender people, may be particularly vulnerable due to stigma and persistent socio-economic disparities.

TABLE 7: Social and financial capital, by gender identity

Overall sample (n=618)			**Gender minority participants (n=79)**		
	n	%	n	%	p
Housing type	(n=618)		(n=79)		
House	550	89.00	70	88.61	0.919
Apartment/flat/garden cottage	53	8.58	7	8.86	
Mokhuku/shack/shanty	6	0.97	1	1.27	
Hotel	1	0.16	0	0.00	
Mobile house	2	0.32	0	0.00	
Hut	3	0.49	1	1.27	
On the street	3	0.49	0	0.00	
Binary					0.980
Informal	15	2.43	2	2.53	
Formal	603	97.57	77	97.47	
Housing security	(n=614)		(n=77)		0.795
Owns home	86	14.01	8	10.39	
Rents home	296	48.21	39	50.65	
Shares housing without paying	232	37.79	30	38.96	
Highest completed level of education	(n=617)		(n=79)		0.752
No formal education	3	0.49	0	0.00	
Primary education	8	1.30	1	1.27	
Secondary school (matric)	285	46.19	40	50.63	
Post-secondary school/ University diploma or degree	321	52.03	38	48.10	

Overall sample (n=618)			Gender minority participants (n=79)		
	n	%	n	%	p
Employment	(n=610)		(n=78)		0.004**
Categorical					
No employment	247	40.49	43	55.13	
Formal employment	240	39.34	19	24.36	
Informal employment	123	20.16	16	20.51	
Binary					0.003*
Not employed	247	40.49	43	55.13	
Employed (formal/informal)	363	59.51	35	44.87	
Sufficient money for basic needs	(n=609)		(n=76)		0.081
No	359	58.95	51	67.11	
Yes	250	41.05	25	32.89	
Has medical aid	(n=585)		(n=73)		0.052
No	382	65.30	54	73.97	
Yes	203	34.70	19	26.03	

*Chi square/Fisher's exact test p-value significant, at p<0.05

Eighty-nine percent of participants lived in housing or apartments (formal, stable housing structures). The other 11% lived in different informal housing structures (informal, unstable, or transient housing), and 3 lived on the street. The sample was more diverse in respect of participants' housing security: almost half of participants rented (48%), another 38% lived in shared housing without paying rent (for example with family or friends) and 14% of participants owned their own home.

Levels of education were reported as high in the overall sample: 98% had completed secondary education, and over half of all participants had completed a post-secondary educational degree (for example, a tertiary degree or a post-secondary diploma; 52%).

Many participants were in financially precarious situations: 40% did not have a paid job, and another almost 40% (39%) held informal jobs, without contracts. Further, 59% said they did not have enough money to cover their basic needs. This percentage rose to 67% among gender minority participants (not statistically significant).

Just over a third of participants (35%) had private health insurance (medical aid).

Social support and being 'out'

To measure social support, we asked participants who they go to when they need to talk about life problems. We also asked who in their life knows about their sexual orientation and gender identity as a way of quantifying how 'out' they are. A description of these responses is in Table 8.

TABLE 8: Social support and being 'out'

	Overall sample (n=618)		Gender minority participants (n=79)		
	n	%	n	%	p
Who they go to for support	(n=608)		(n=75)		
Current partner(s)	317	52.14	36	48.00	0.269
Family member(s)	307	50.49	33	44.00	0.093
Friend(s)	433	71.22	42	56.00	0.001*
Person/people living with	95	15.63	10	13.33	0.445
Healthcare provider(s)	73	12.01	8	10.67	0.485
Co-worker(s)	79	12.99	4	5.33	0.036*
Person/people living nearby	39	6.41	2	2.67	0.146
LGBTI organisations	124	20.39	16	21.33	0.862
Who knows their SOGI	(n=608)		(n=75)		
Current partner(s)	409	67.27	47	62.67	0.250
Family member(s)	382	62.83	55	73.33	0.026*
Friend(s)	491	80.76	54	72.00	0.046*
Person/people living with	197	32.40	38	50.67	<0.001*
Healthcare provider(s)	125	20.56	19	25.33	0.239
Co-worker(s)	139	22.86	22	29.33	0.150
Person/people living nearby	117	19.24	26	34.67	<0.001*
LGBTI organisations	257	42.27	35	46.67	0.550

*Chi square/Fisher's exact test p-value significant, at $p<0.05$

Overall, participants reported having the most social support from friends (71%), current partner (52%) and family members (50%) and were out to friends (80%) more than other people in their lives. Gender minority people were more likely to report being out to family (73%), people they live with (51%), and people living nearby (35%) than their cisgender counterparts (60%, 29% and 15%, respectively; all $p<0.05$).

Gender minority people reported having less support from friends than their cisgender counterparts (56% vs 71%; $p<0.05$) and were also significantly less likely to be out to their friends. Gender minority participants were also significantly less likely to be out to their co-workers, however, they were also less likely to be employed than cisgender participants.

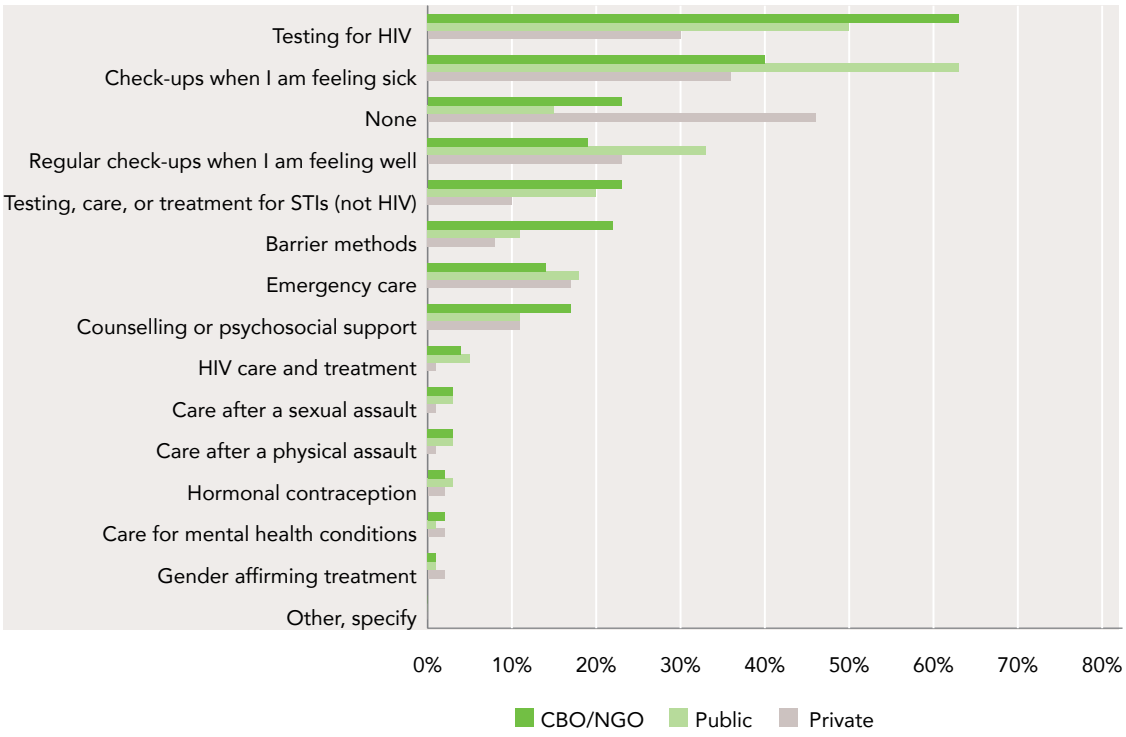
About one fifth of participants (21%) had disclosed their sexual orientation or gender identity to a healthcare provider.

Health-seeking behaviour

We asked participants what health services they had sought in the previous year, and where they had gone for these services. Thirty-five percent of participants had private health insurance.

Figure 5 shows health services, in the order of most accessed in the previous year to least accessed, as well as what kind of provider was used – NGOs, public healthcare or private healthcare.. Overall, participants had most often gone to a public health service when they were feeling sick, or for HIV voluntary counselling and testing (HIV VCT). NGOs were the main source of care for HIV voluntary counselling and testing, to obtain barrier methods and commodities, for counselling and psychosocial support, and for STI testing, treatment and care. Very few participants had accessed health facilities for gender affirming care. We explore this further in the following section.

FIGURE 5: Health-seeking behaviour in previous year



Gender affirming practices

In addition to asking all participants about their general health-seeking behaviour, we also asked gender minority participants about their access to, and use of gender affirming practices. Participants' gender affirming practices are shown in Table 9. These findings are important because gender affirming practices such as binding[4] are proven to support people's gender identity and expression, reduce psychological distress and increase their safety in public (Manderson 2012, Ekins and King 2006, Cole and Han 2011). However, some gender affirming practices also might have health implications (Peitzmeier *et al*. 2017). It is therefore important for NGOs and healthcare providers to know about the risks of gender affirming practices and to discuss them with people who want to use gender affirming practices, so that they can make informed choices and learn

4 Binding is a technique to flatten one's breast or chest by using constrictive materials and clothing. Tucking is a technique to hide the bulge of male genitalia so that they are not conspicuous through clothing.

how to reduce these risks.

In Botswana, 17% of gender minority participants assigned female at birth used binding and 13% of those assigned male at birth used tucking. Fifteen percent of gender minority participants used hormones for gender affirmation.

TABLE 9: Gender affirming practices

Gender minority participants		
	N	%
Binding (among those assigned female at birth, n=77)	13	16.88
Tucking (among those assigned male at birth, n=76)	10	13.16
Hormones (n=78)	12	15.38

Access to gender affirming healthcare impacts the level of hormone use among gender minority participants. Therefore Table 9 may not reflect the number of participants who want and need to use hormones but cannot access them. We asked participants who identified as transgender or gender non-conforming whether they had access to hormonal and surgical gender affirmation procedures (regardless of whether or not they wanted to actually make use of any of these). Table 10 shows that almost half of gender minority participants (49%) had access to hormone treatment, and over one in three (39%) had access to surgical procedures. We do not have any other data on access to gender affirming healthcare in Botswana, so we cannot compare our findings.

TABLE 10: Access to gender affirming care

Access to gender-affirming care for gender minority participants (n=79)		
	n	%
Access to hormones (n=49)	24	48.98
Access to surgical procedures (n=49)	19	38.78

Discrimination in healthcare

We asked participants about experiences of discrimination in health facilities, and how such experiences might have impacted their health-seeking behaviour. We examined experiences of discrimination or fear of discrimination in the overall sample and among gender minority participants. Table 11 describes these differences by these categories.

TABLE 11: Healthcare access and discrimination

	Overall sample (n=618)		Gender minority[5] participants (n=79)		
	n	%	n	%	p
Disclosed SOGIE to healthcare provider	(n=616)		(n=78)		
Yes	304	49.35	52	66.67	0.001*
Has tried to hide SOGIE-related health concern from healthcare provider	(n=574)		(n=75)		
Yes	230	40.07	29	38.67	0.536
Has been treated disrespectfully when seeking healthcare because of SOGIE	(n=614)		(n=78)		
Categorical					0.004*
Never	329	53.58	35	44.87	
Rarely	152	24.76	14	17.95	
Sometimes	108	17.59	21	26.92	
Often	25	4.07	8	10.26	
Binary					0.069
No (Never)	329	53.58	35	44.87	
Yes (Rarely/Sometimes/ Often)	285	46.42	43	55.13	
Has been called names or been insulted in a health facility because of SOGIE	(n=613)		(n=78)		
Categorical					0.001*
Never	391	63.78	42	53.85	
Rarely	116	18.92	11	14.10	
Sometimes	83	13.54	22	28.21	
Often	23	3.75	3	3.85	
Binary					0.035*
No (Never)	391	63.78	42	53.85	
Yes (Rarely/Sometimes/ Often)	222	36.22	36	46.15	
Has you been denied healthcare because of SOGIE	(n=614)		(n=77)		
Categorical					0.488
Never	448	72.96	58	75.32	

5 Gender minority refers to all participants who identified as transgender, gender non-conforming or 'other' gender identities

	Overall sample (n=618)		Gender minority[5] participants (n=79)		
	n	%	n	%	p
Rarely	102	16.61	8	10.39	
Sometimes	52	8.47	9	11.69	
Often	12	1.95	2	2.60	
Binary					0.677
No (Never)	448	72.96	58	75.32	
Yes (Rarely/Sometimes/ Often)	166	27.04	19	24.68	

*Chi square/Fisher's exact test p-value significant, at $p<0.05$

About half of participants (49%) had told a healthcare provider about their sexual orientation and/or gender identity, with gender minority participants being more likely to have disclosed (67%, $p<0.05$). This may represent an increase in openness with healthcare providers, as a 2001 study from Botswana documented that only 15% of sexual minority participants (n=47) 'shared intimate information about their sexual orientations' with healthcare providers (Ehlers, Zuyderduin and Oosthuizen, 2001).

Overall, the majority of participants had not been denied healthcare or called names or insulted due to their sexual orientation or gender identity. However, over a quarter of participants had been denied healthcare (27%) and 36% reported being called names or being insulted by healthcare staff at some point. Notably, almost half of participants had been treated disrespectfully when seeking healthcare (46%). Ten percent of gender minority participants reported that this happened "often."

Participants' sexual orientation and gender identity also directly influenced many participants' healthcare, as 40% of all participants reported trying to hide a health concern related to their sexual orientation or gender identity from a healthcare provider.

Overall, our findings confirm and quantify the presence of SOGIE-related prejudice and stigma in the healthcare system in Botswana, which other researchers have also highlighted (Ehlers, Zuyderduin and Oosthuizen, 2001; The Other Foundation, 2016).

Experiences of violence

We asked participants about their experiences of violence, including verbal harassment related to participants' sexual orientation and gender identity or expression (SOGIE) and experiences of physical violence, sexual violence and domestic violence. We asked about experiences of violence in the previous year, as well as at any point in participants' lifetime. Table 12 shows the findings for participants overall, and for gender minority participants.

Past research across the world has shown that LGBTI people are vulnerable to violence. In summary, our findings show that LGBTI people in Botswana are vulnerable to violence, particularly verbal harassment and physical violence. Gender minority people are especially vulnerable to violence, and experience violence more often than sexual minority people.

TABLE 12: Harassment and violence, overall sample and by gender identity

	Overall sample (n=618)		Gender minority participants (n=79)		
	n	%	n	%	p
SOGIE-related verbal harassment	(n=607)		(n=77)		
Experienced in lifetime	287	47.28	43	55.84	0.084
	(n=592)		(n=73)		
Experienced in past year	187	31.59	33	45.21	0.003*
Sexual violence	(n=612)		(n=77)		
Experienced in lifetime	162	26.47	29	37.66	0.003*
	(n=612)		(n=77)		
Experienced in past year	73	11.93	13	16.88	0.058
Physical violence	(n=611)		(n=77)		
Experienced in lifetime	190	31.10	37	48.05	<0.001*
	(n=611)		(n=77)		
Experienced in past year	97	15.88	21	27.27	0.001*

*Chi square/Fisher's exact test p-value significant, at p<0.05

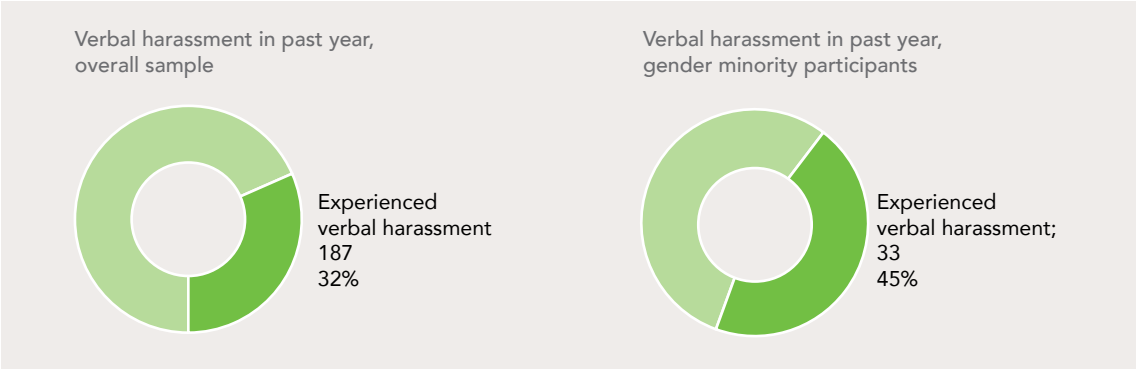
In our study, the different levels of violence between cisgender and gender minority participants are noteworthy. Compared to cisgender participants, gender minority participants experienced significantly higher levels of verbal harassment, sexual and physical violence.

In the following subsections, we discuss the different forms of violence (verbal, sexual and physical) in detail.

Verbal harassment

Almost half (47%) of participants had experienced verbal harassment due to their sexual orientation and/or gender identity or expression at some point in their life, and one in three (32%) had experienced verbal harassment in the previous year (Figure 6). This number was even higher for gender minority participants: almost half of gender minority participants (45%) had experienced verbal harassment in the previous year.

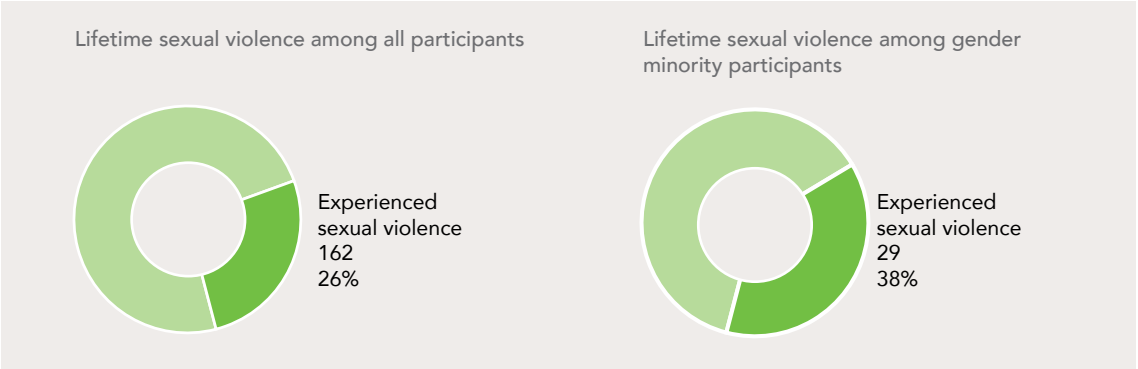
FIGURE 6: Verbal harassment, past year



Sexual violence

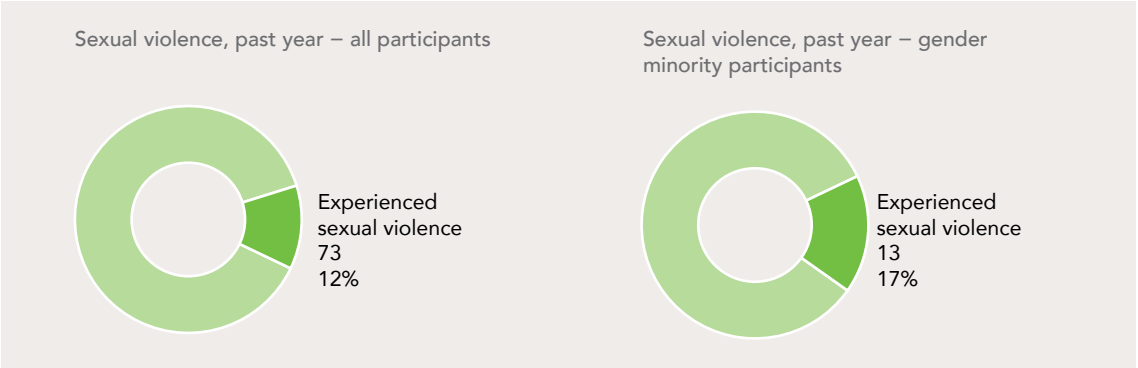
One in four participants (26%) were survivors of sexual violence (Figure 7). Among gender minority participants, it was more than one in three (38%).

FIGURE 7: Sexual violence, lifetime



Of the overall participant group, one in eight participants (12%) had experienced sexual violence in the previous year (Figure 8). Among gender minority participants, it was one in six (17%).

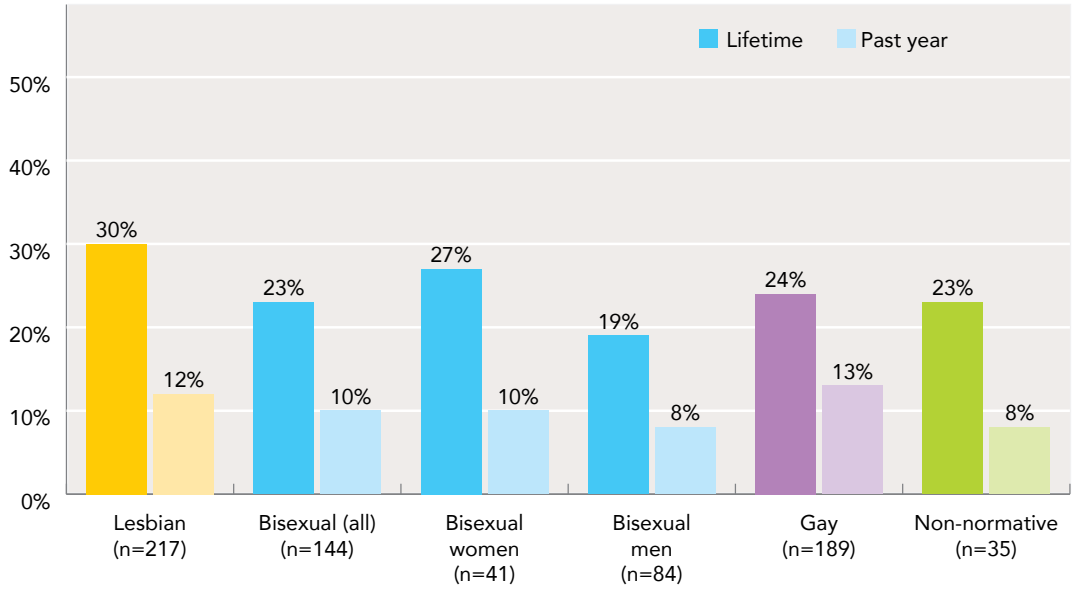
FIGURE 8: Sexual violence, past year prevalence



When disaggregated by sexual orientation (see Figure 9 as well as Table 21, Table 22 and Table 23), we found that almost one in three (30%) lesbian participants had experienced sexual violence in their lifetime, and 12% in the past year. Of all participants who identified as gay men, one in four (24%) had experienced sexual violence in their lifetime, and 13% in the previous year. Of all

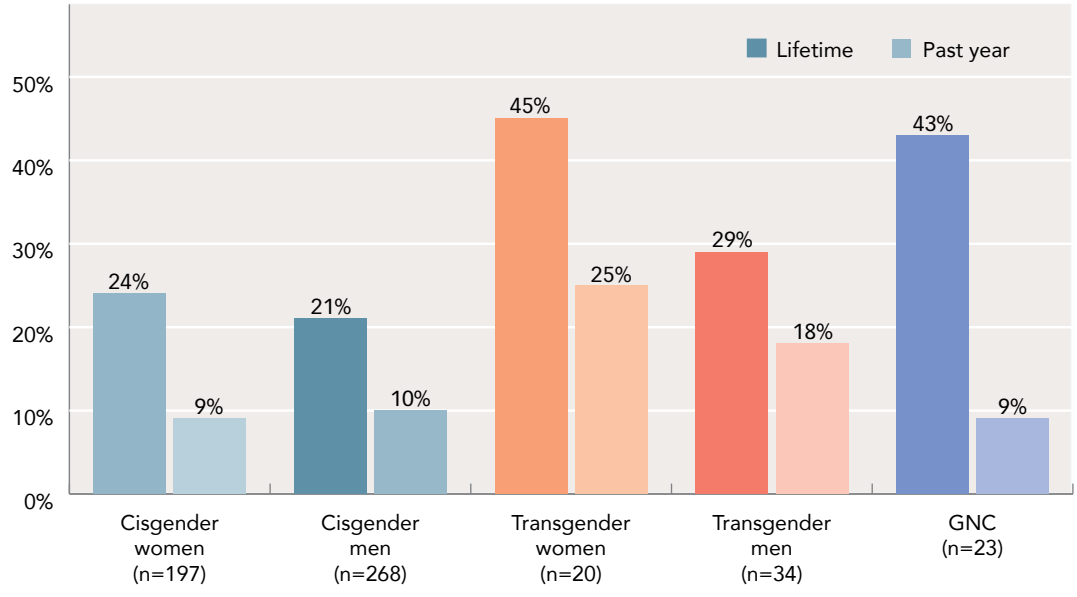
bisexual participants, 23% had experienced sexual violence in their lifetime, and 10% in the past year. Notably, bisexual women experienced higher levels of sexual violence than bisexual men: in their lifetime, 27% of bisexual women had experienced sexual violence, compared to 19% of bisexual men; in the previous year, it was 10% of bisexual women compared to 8% of bisexual men.

FIGURE 9: Sexual violence, by sexual orientation



The levels of sexual violence were significantly higher among gender minority participants than among cisgender participants (see Figure 10, as well as Table 26), irrespective of their sexual orientation. Almost half of transgender women (45%) had experienced sexual violence in their lifetime, and one in four (25%) in the past year. Among transgender men, it was almost one in three in their lifetime (29%) and almost one in five in the past year (19%). Gender non-conforming people also had high levels of experiences of sexual violence: 43% in their lifetime, and 9% in the past year.

FIGURE 10: Sexual violence, by gender identity



There is one other study with sexual or gender minority participants that looked at sexual violence in Botswana. It is a four-country study with women who have sex with women (Sandfort *et al.*, 2015). The findings are from Botswana, Namibia, South Africa and Zimbabwe, and are not disaggregated by country. In this study, 31% of women said that they had experienced sexual violence. This is very similar to the lifetime prevalence of sexual violence among lesbian participants (and other women who have sex with women) in our study, which is 30%, or one in three.

Also of concern is the high level of sexual violence experienced by gay participants in our study. Our findings suggest that almost a quarter of gay and other men who have sex with men might have experienced sexual violence. Furthermore, our findings suggest that sexual violence against bisexual men and women is also high and warrants inclusion in advocacy and further research efforts.

While sexual violence among sexual minority people in Botswana is high, it is significantly higher among transgender women, transgender men and gender non-conforming people. While we do not have comparative data specifically from Botswana, in the United States, the 2015 United States Transgender Survey showed that nearly half of transgender people (47%) have been sexually assaulted at some point in their lifetime, and one in ten (10%) have been sexually assaulted in the previous year (James *et al.*, 2016a). The lifetime experiences of sexual violence of transgender and gender non-conforming people in our study are very similar to those in the US. The experiences of sexual violence in the past year transgender and gender non-conforming people in our study seemed to be even higher than in the US.

Our study did not collect data on the prevalence of sex work among participants. However, existing evidence shows that gender minority people are more likely to sell sex due to systemic, institutional and interpersonal discrimination that limits their access to education and work opportunities (Sausa, Keatley and Operario, 2007; Nadal, Davidoff and Fujii-Doe, 2014; The Other Foundation, 2016). For example, one in five participants in the 2015 United States Transgender Survey engaged in sex work for money, food, a place to sleep, or other goods or services (James *et al.*, 2016b). The higher risk of experiencing violence among sex workers, and the fact that gender minorities may be more likely to do sex work, may account in some part for the extremely high prevalence of sexual violence, as well as other forms of violence, experienced by transgender and gender non-conforming people in our study.

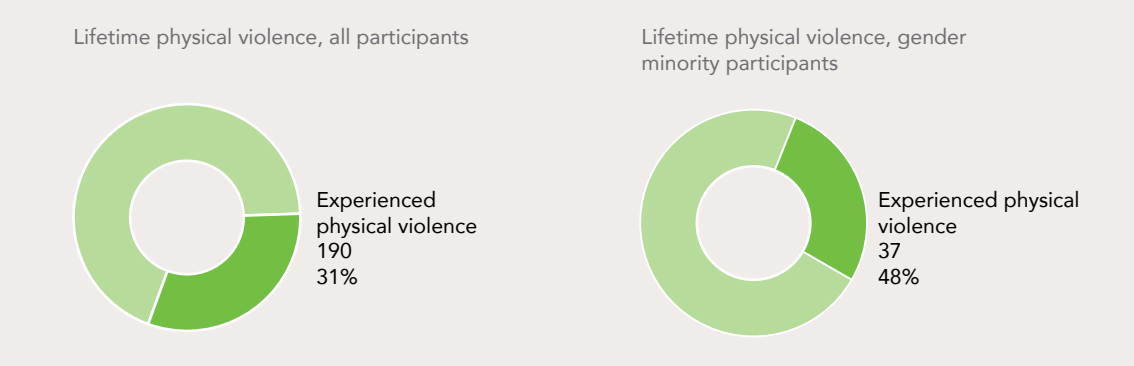
Compared to the general Batswana population, the sexual and gender minority participants in our study experienced much higher levels of sexual violence in their lifetime: 30% of lesbian women, 27% of bisexual women, and 45% of transgender women had experienced sexual violence - compared to 10-11% of women in the general population (Tsai *et al.*, 2011; Machisa and van Dorp, 2012). The lifetime prevalence of sexual violence in our study is also much higher for sexual or gender minority men: 24% for gay men, 19% for bisexual men and 29% for transgender men – compared to 4% of men in the general population (Tsai *et al.*, 2011). Among women in the general Batswana population, the prevalence of sexual violence in the past year is estimated to be 5% (Tsai *et al.*, 2011). Among the sexual and gender minority women in our study, the past year prevalence of sexual violence is again much higher: 12% among lesbian women, 10% among bisexual women, and 25% among transgender women. In fact, the levels of sexual violence that transgender women in our study had experienced in the past year alone are more than double than the levels of sexual violence reported by women in the general population throughout their lifetime.

On the whole, our findings point out that a significant amount of sexual and gender minority people in Botswana are survivors of sexual violence. The World Health Organization has shown that the health consequences of sexual violence are significant and diverse: they include physical injuries, unwanted pregnancy, sexually transmitted infections, including HIV, higher rates of mental health concerns, including depression and post-traumatic stress disorder, and higher likelihood of attempting suicide (Krug *et al*., 2002). Thus, there is a need for LGBTI affirming counselling and psychosocial support, as well as medico-legal and court preparation services, should survivors decide to report and cases be brought to trial.

Physical violence

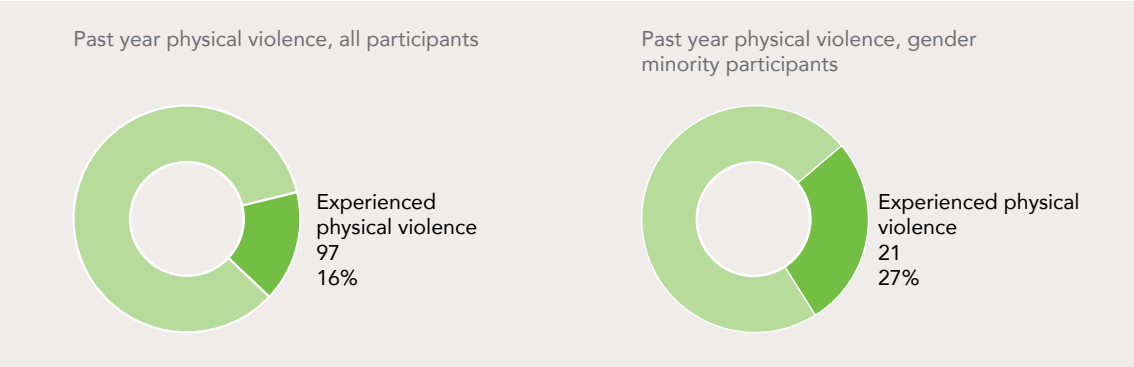
Almost one in three participants in our study had experienced some form of physical violence at some point in their lives (Figure 11). Among gender minority participants, it was almost half.

FIGURE 11: Physical violence, lifetime



In the year prior to answering the survey, one in six participants (16%) had experienced physical violence (Figure 12). When examining gender minority participants, it was more than one in four participants (27%).

FIGURE 12: Physical violence, past year



People of all sexual orientations experienced similar levels of lifetime physical violence (see Figure 13, and also Table 21, Table 22 and Table 23). The levels ranged from 23% (bisexual men) to 39% (bisexual women). About one third of lesbian and gay participants, as well as about one third of participants with a non-normative sexual orientation, had experienced physical violence in their lifetime.

In the past year, levels of physical violence ranged from 9% (one in ten people with non-normative sexual orientations) to 19% (one in five lesbian participants).

FIGURE 13: Physical violence, by sexual orientation

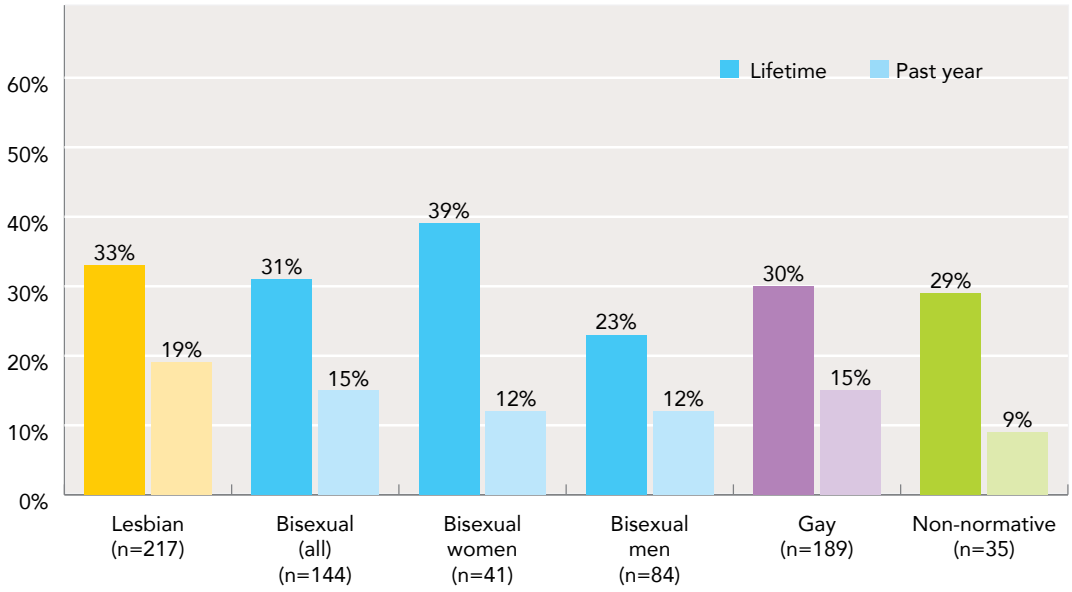
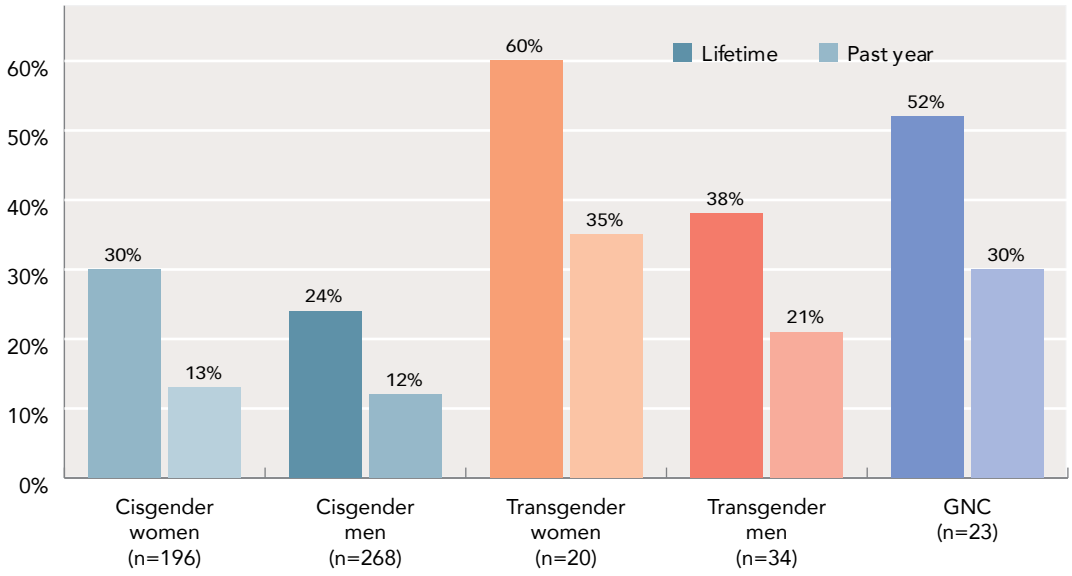


Figure 14 shows that gender minority participants experienced significantly higher levels of violence compared to cisgender participants, regardless of their sexual orientation. Almost two-thirds of transgender women (60%) had experienced physical violence in their lifetime, and over one third (35%) in the past year. More than half of gender non-conforming people (52%) had experienced physical violence in their lifetime, and almost one third (30%) in the past year. Among transgender men, it was more than one third in their lifetime (38%) and more than one in five (21%) in the past year.

FIGURE 14: Physical violence, by gender identity



These violence levels are higher than what we know from existing studies, which mostly are from the US: in Virginia, US, 27% of transgender people participating in a community-based survey said they had experienced physical violence in their lifetime (Bradford *et al.*, 2013). In a study among transgender women who have a history of sex work, also done in the US, 51% of participants said they experienced physical violence in their lifetime (Nemoto, Bödeker and Iwamoto, 2011). In our study, 60% of transgender women had experienced physical violence in their lifetime. Evidence suggests that transgender people are more vulnerable to violence if they experience more discrimination in their everyday lives (Bradford *et al.*, 2013). As our findings have shown, the gender minority participants in our study often live in financially precarious situations, and have limited access to healthcare and socio-economic opportunities. While gender minority people worldwide may be more at risk for financial instability—for example, due to discrimination in employment—gender minority people in Botswana may be particularly at risk due to the particular socioeconomic context. This might be one explanation why the levels of physical violence among our study's transgender participants are much higher than in the US.

In our study, transgender women and men, as well as gender non-conforming people, experienced higher levels of sexual and physical violence than lesbian, bisexual and gay study participants. This suggests that non-conforming gender identity might be an even bigger risk factor for violence than non-conforming sexual orientation. A recent systematic review by the World Health Organisation confirms this: this review found that the prevalence of sexual violence experienced by transgender people ranged from 7-49%, and the prevalence of physical violence from 12-68%.

Figure 14 also shows that within the group of gender minority participants, transgender women and gender non-conforming people have experienced the highest levels of physical violence in our sample (60% among transgender women, 52% among gender non-conforming people, compared to 38% among transgender men). This suggests that perhaps more than gender minority status, non-conforming gender expression, and thus, being identifiable as a gender minority, places people at risk. Bockting and colleagues (Bockting *et al.*, 2013b), drawing on Kuiper & Cohen-Kettenis (Kuiper and Cohen-Kettenis, 1988), argue that passing as the opposite gender might be easier for transgender men than transgender women, and outlines that this might mean that transgender women more often experience the negative effects of being visible. Gender non-conforming people and transgender women might be less able to 'pass' than even transgender men (and transgender men might be somewhat shielded from transphobic violence through being more likely to 'pass'). This comports with Nath's argument (Nath, 2011) that homophobic sexual violence is motivated by non-conforming gender expression (which then *assumes* a non-conforming sexual orientation). While our findings clearly show that the levels of violence experienced by both gender minority and cisgender people in Botswana are very high, we caution against only using sexual minority or gender minority categories to determine who is at risk for violence. These categories alone do not adequately demonstrate the diversity of non-conforming gender expression that puts people at risk for violence by 'revealing' one's (assumed) sexual orientation or gender identity.

Perpetrators of violence

We asked participants who the perpetrators of violence against them were. Table 13 shows the details of this analysis. There are a few important observations, which we will describe in the following sections.

Intimate partner violence

First, we found high levels of intimate partner violence among participants. One in six participants (17%) said that they had been sexually assaulted by an intimate partner of any gender. Among lesbian and other women who have sex with women, one in five (20%) had been sexually assaulted by an intimate partner; among gay and other men who have sex with men, it was one in six (16%; see also Table 21 and Table 22). Among gender minority participants, 19% had been sexually assaulted by an intimate partner (see also Table 26).

One in five participants had been physically assaulted by an intimate partner (21%). This number was significantly higher among gender minority participants, where one in three had been physically assaulted by an intimate partner (32%; see also Table 26).

Our study confirms findings from a representative national survey in the United States that found that levels of sexual and physical intimate partner violence are high among sexual minority men and women (Walters, Chen and Breiding, 2013).

TABLE 13: Perpetrators of lifetime sexual and physical violence

	Overall sample (n=618)		Gender minority participants (n=79)		
	n	%	n	%	p
Sexual violence					
Intimate partner					
	(n=610)		(n=77)		
	102	16.72	15	19.48	0.385
Someone known (not intimate partner)					
	(n=608)		(n=77)		
	99	16.28	21	27.27	0.001*
Stranger					
	(n=603)		(n=76)		
	84	13.93	23	30.26	<0.001*
Someone lived with (intimate partner or other)					
	(n=598)		(n=74)		
	50	8.36	10	13.51	0.069

	Overall sample (n=618)		Gender minority participants (n=79)		
	n	%	n	%	p
Physical violence					
Intimate partner					
	(n=607)		(n=75)		
	128	21.09	24	32.00	0.006*
Someone known (not intimate partner)					
	(n=610)		(n=76)		
	105	17.21	25	32.89	<0.001*
Stranger					
	(n=606)		(n=76)		
	112	18.48	25	32.89	<0.001*
Someone lived with (intimate partner or other)					
	(n=604)		(n=75)		
	61	10.10	14	18.67	0.006*
Participant felt any lifetime sexual or physical violence was linked to being LGBTI					
	(n=230)		(n=40)		
Yes	148	64.35	30	75.00	0.201

*Chi square/Fisher's exact test p-value significant, at p<0.05

Stranger violence

Second, we found that gender minority participants were significantly more likely to report having experienced sexual or physical violence by strangers: 30% of gender minority participants had experienced sexual violence by a stranger (compared to 11% of cisgender, sexual minority participants), and 33% had experienced physical violence by a stranger (compared to 15% of cisgender sexual minority participants).

SOGIE-motivated violence

Third, almost two thirds of participants (64%) felt that the violence they experienced was linked to their sexual orientation and/or gender identity and expression. Among gender minority participants, this was felt by three quarters of participants (75%). While we cannot verify the motivation of the perpetrator(s), these findings contribute to the social context of violence motivated by sexual orientation or gender identity. Violence that is motivated by someone's sexual orientation or gender identity sends a message to all LGBTI people (Breen and Nel, 2011). This is detrimental to LGBTI people's mental health and well-being, as we will show in the coming sections of this report.

Impact of violence

We asked participants who had experienced sexual or physical violence in their lifetimes about three signs of post-traumatic stress. We classified participants who experienced all three symptoms as showing signs of post-traumatic stress. Almost half of all participants who had experienced violence in their lifetime (43%) showed signs of posttraumatic stress.

Participants who experienced any sexual or physical violence in the last year were also asked about whether they reported it to the police, and if they had sought medical care (Table 14). About one in four participants (27%) had reported to the police. More participants had gone to a healthcare provider for care (32%), though more than two thirds had not. Of those who had gone to the police or to a healthcare provider, two thirds (67%) said that they felt they were treated with less courtesy because of their sexual orientation and/or gender identity.

TABLE 14: Reporting violence-for those who experienced sexual assault or physical assault in the last year

	Overall sample (n=618)		Gender minority participants (n=79)		
	n	%	N	%	p
Experienced violence in previous year	(n=120)		(n=22)		
	(n=117)		(n=22)		
Sought medical care	38	32.48	10	45.45	0.339
	(n=117)		(n=22)		
Reported to police	32	27.35	7	31.82	0.881
Felt treated with less courtesy for being LGBTI	(n=42)		(n=10)		
Categorical					0.558
Never	14	33.33	2	20.00	
Rarely	8	19.05	2	20.00	
Sometimes	11	26.19	2	20.00	
Often	9	21.43	4	40.00	
Binary					0.693
No (Never)	14	33.33	2	20.00	
Yes (Rarely/Sometimes/Often)	28	66.67	8	80.00	

*Chi square/Fisher's exact test p-value significant, at p<0.05

Mental health outcomes

Mental health outcomes in the overall sample

Table 15 provides an overview of the mental health outcomes in the overall sample of participants. Additionally, the table also shows these mental health outcomes among all gender minority participants.

TABLE 15: Overall mental health outcomes

	Overall sample (n=618)		Gender minority[6] participants (n=79)		
	n	%	n	%	p
Depression (CES-D-10)	(n=609)		(n=76)		0.008*
Classified as not depressed	372	61.08	36	47.37	
Classified as depressed	237	38.92	40	52.63	
Anxiety (GAD-7)	(n=592)		(n=74)		
Categorical					<0.001*
No signs of anxiety	321	54.22	22	29.73	
Signs of mild anxiety	154	26.01	36	48.65	
Signs of moderate anxiety	69	11.66	7	9.46	
Signs of severe anxiety	48	8.11	9	12.16	
Binary					0.768
No/mild anxiety	475	80.24	58	78.38	
Moderate/severe anxiety	117	19.76	16	21.62	
Suicidality	(n=601)		(n=74)		
Suicidal ideation, lifetime	221	36.77	35	47.30	0.032*
Suicidal attempts, lifetime	(n=597) 172	28.81	(n=73) 31	42.47	0.003*
Suicidal ideation, past year	(n=580) 89	15.34	(n=69) 17	24.64	0.010*
Suicidal attempts, past year	(n=585) 78	13.33	(n=70) 12	17.14	0.198
Alcohol use	(n=573)		(n=74)		
Categorical					0.001*
No alcohol use	206	35.95	17	22.97	
Some alcohol use	100	17.45	22	29.73	
Hazardous use	131	22.86	14	18.92	
Harmful use	52	9.08	5	6.76	
Alcohol dependence	84	14.66	16	21.62	

6 Gender minority refers to all participants who were transgender, gender non-conforming or 'other' gender identities

	Overall sample (n=618)		Gender minority[6] participants (n=79)		
	n	%	n	%	p
Binary					0.764
No/some alcohol use	306	53.40	39	52.70	
Hazard/Harm/ dependence	267	46.60	35	47.30	
Drug use	(n=595)		(n=74)		
Categorical					
No drug use	495	83.19	57	77.03	0.054
Some drug use	22	3.70	2	2.70	
Harmful drug use	59	9.92	14	18.92	
Drug dependence	19	3.19	1	1.35	
Binary					0.046*
No/some drug use	517	86.89	59	79.73	
Harmful use/ dependence	78	13.11	15	20.27	
Tobacco use	(n=607)		(n=77)		0.001*
Doesn't smoke at all	388	63.92	38	49.35	
Smoke some days	102	16.80	24	31.17	
Smoke everyday	117	19.28	15	19.48	

In summary, our findings show that the levels of depression, anxiety and substance use in our sample of sexual and gender minority participants are high. Each of these health outcomes are described in further detail in the subsections below.

Depression

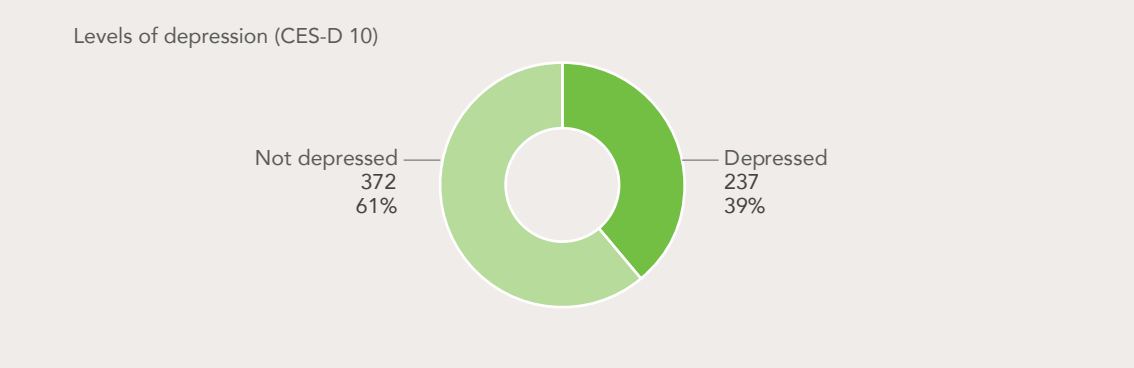
We used the instrument CES-D 10, a 10-item Center for the Epidemiological Studies of Depression Short Form to measure depression. It is widely used to screen for signs of depression in primary care settings, and is often used for research on the prevalence of depression. It is important to keep in mind, however, that we cannot diagnose people with the CES-D 10. In order to receive a definitive diagnosis of clinical depression, an individual needs to see a healthcare provider.

Based on the CES-D 10, over a third of our participants (39%) were categorised as currently depressed (Figure 15).

Available research on depression from Botswana has typically focused on the links between HIV status and depression, and gender-based violence and depression. A study with people living in areas with high HIV-prevalence found that 25% of women and 31% of men had depression (Gupta *et al.*, 2010). The level of depression among our participants was somewhat higher, however, we

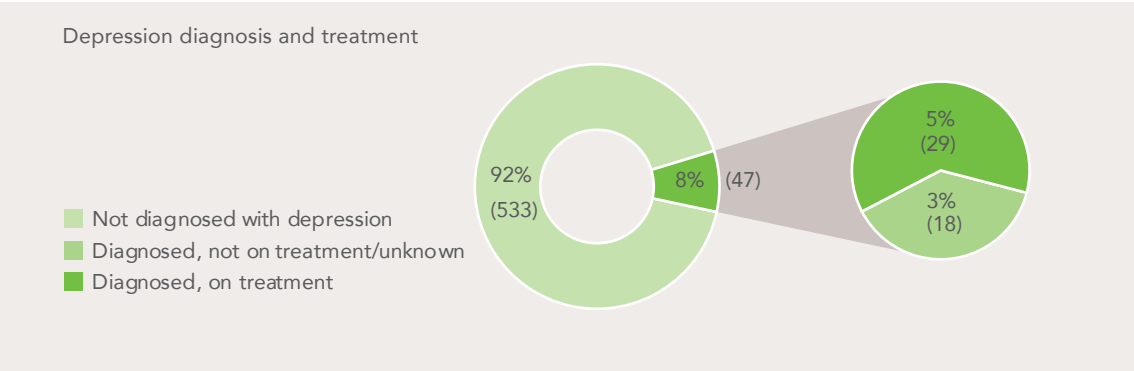
did not measure HIV status in this study. Depression has also been found to be more common among those in Botswana who experienced intimate partner violence or rape in the past year (Machisa and van Dorp, 2012).

FIGURE 15: Level of depression in overall sample



Despite over a third of participants having high CES-D 10 scores, fewer than one in ten participants (8%) said that they had previously been diagnosed with depression (Figure 16). Only 5% of participants, and 62% of those diagnosed by a healthcare provider, were receiving treatment at the time of filling out the survey. When we looked at this in comparison to the participants' CES-D scores, 34% of those showing signs of depression had never been told by a healthcare provider that they have clinical depression ($p<0.05$). This suggests that there may be a large percentage of sexual and gender minority people who have not received diagnoses and treatment that could help them manage their symptoms of depression.

FIGURE 16: Depression diagnosis and treatment



When examining participants' depression levels by sexual orientation and gender identity, we observed differences among the various groups. Lesbian participants had the highest level of depression (47%), whereas those with 'non-normative' sexual orientations had the lowest, at 23% (Figure 17). By gender identity, trans women and trans men had the highest levels of depression (55% and 58%, respectively; Figure 18).

FIGURE 17: Levels of depression, by sexual orientation

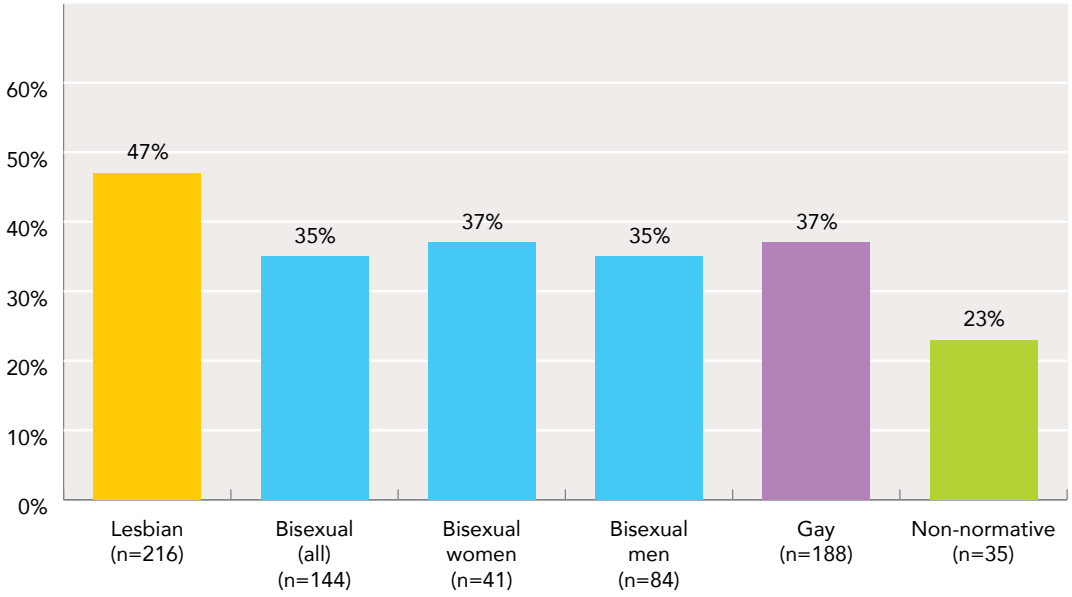
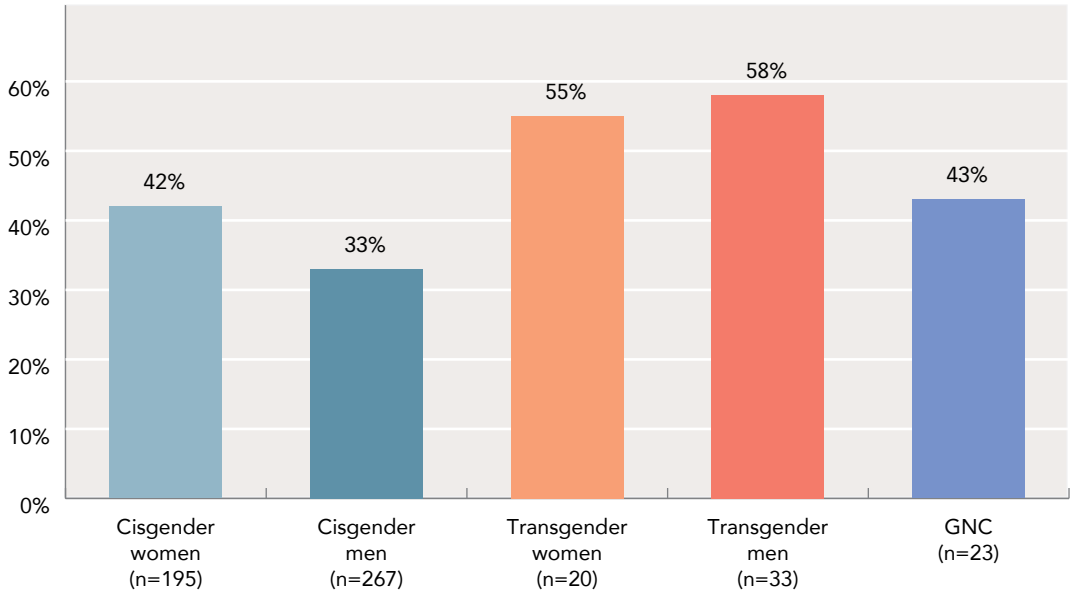


FIGURE 18: Depression by gender identity



We used logistic regression[7] to examine how other factors impact the relationships between sexual orientation, gender identity and depression. In the model, there were no significant difference in signs of depression by sexual orientation or gender identity. The only remaining association with depression was anxiety, based on the GAD-7 score (see next section of this report on Anxiety and

7 In this model where the binary CES-D 10 score was the outcome, we adjusted for the following: anxiety (the Generalized Anxiety Disorder 7-item scale (GAD-7) score), alcohol and drug use (the Alcohol Use Disorders Identification Test (AUDIT) and Drug Use Disorders Identification Test (DUDIT) scores), smoking, socioeconomic status (employment, financial security, and housing), thinking about suicide in the last year, suicide attempt in the last year, lifetime experiences of sexual violence, lifetime experiences of physical violence, signs of post-traumatic stress, whether the survey was administered by the participant or a fieldworker, and age.

Table 16). It is important to remember that our sample does not include people who are both cisgender and heterosexual; therefore we look to other research to draw comparisons between sexual and gender minority people and cisgender and heterosexual populations.

TABLE 16: Logistic regression model of adjusted odds ratios for depression (CES-D 10 cut-off of 10): significant p-values only

Depression	AOR	95% CI	p
Anxiety (GAD-7 score)	1.31	1.24 – 1.38	<0.001

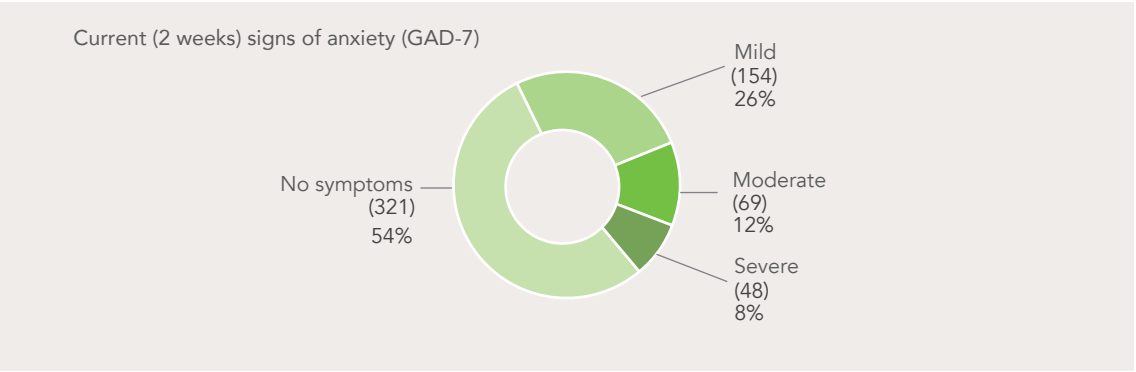
AOR: adjusted odds ratio; CI: confidence intervals.

There is no nationally representative recent data on the prevalence of depression in Botswana. The Global Burden of Disease study (2015) estimated the prevalence of depressive disorders to be about 4.7% (World Health Organization, 2017). A 2010 study among the general population in Botswana showed that depression levels were 25% for women and 31% for men (Gupta *et al.*, 2010). The overall prevalence of depressive signs in our sample was much higher at 38%, and very much higher for transgender participants (55-58%). This suggests that sexual and gender minority people in Botswana are at higher risk for depression compared to the general population.

Anxiety

The instrument GAD-7 was used to assess signs of anxiety in participants in the last two weeks. Based on the anxiety score (GAD-7), we classified participants into four categories: participants with no signs of anxiety, with signs of mild anxiety, with signs of moderate anxiety, and with signs of severe anxiety. The GAD-7 score should not be taken as a definitive diagnosis of anxiety in participants, but an assessment of current symptoms. According to the anxiety scores, almost half of participants (46%) had experienced anxiety in the last two weeks (see Figure 19). Eight per cent of participants reported signs of severe anxiety.

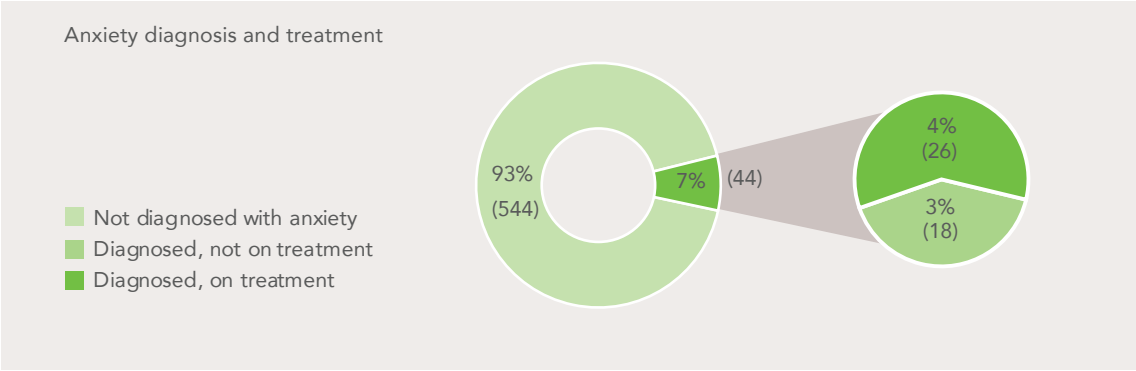
FIGURE 19: Current signs of anxiety, overall sample



We also asked participants if they had ever been diagnosed with anxiety. Overall, 7% of participants said that they had previously been told by a healthcare worker they had anxiety. Sixty percent of participants who said they had been diagnosed were receiving treatment at the time of filling out the survey (Figure 20). More than half of participants with symptoms of severe or moderate anxiety had never been told by a doctor that they have clinical anxiety (62%%). This suggests

that sexual and gender minority Batswana with severe anxiety symptoms (and possibly anxiety disorders) are not accessing the healthcare that they need.

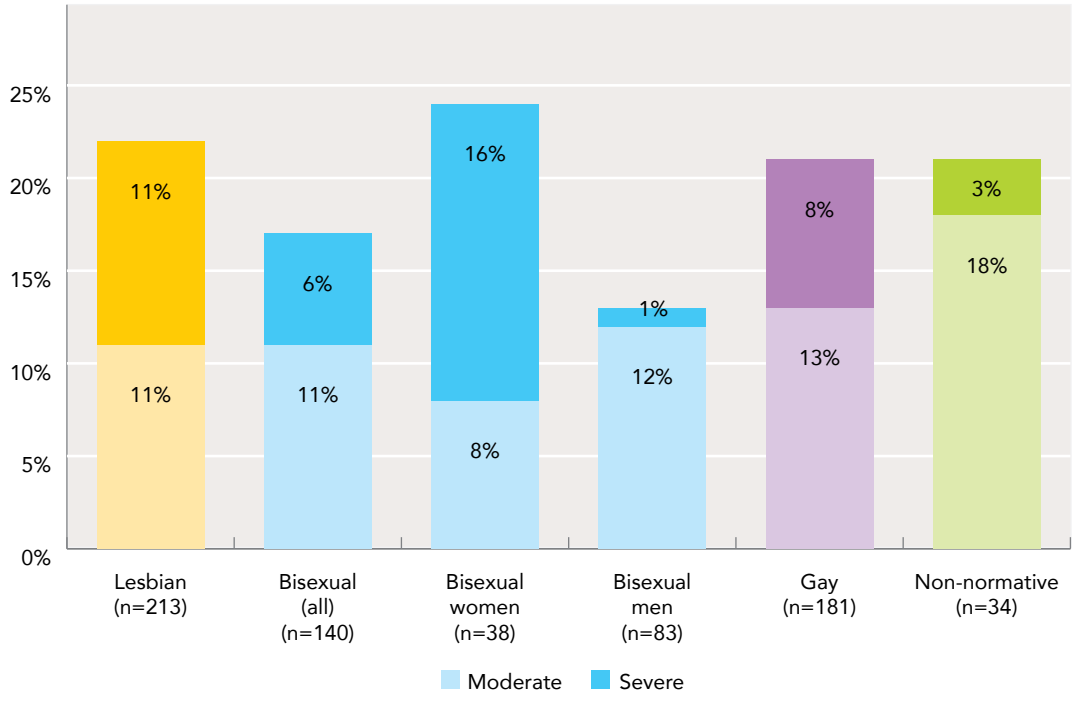
FIGURE 20: Participants previously diagnosed with anxiety & their treatment



Through literature review, we were unable to find comparison data on anxiety among Batswana people in general. The Global Burden of Disease study (2015) estimated prevalence of anxiety in Botswana to be 3.1% (World Health Organization, 2017).

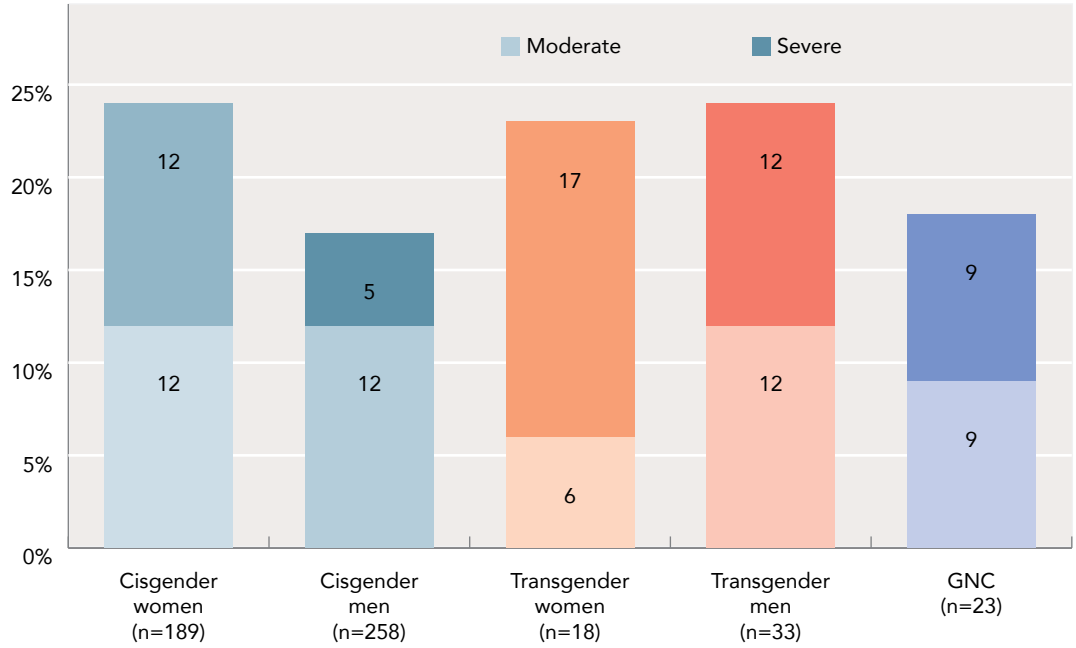
We did not observe notable differences in anxiety levels by sexual orientation. Seventeen to 22% of lesbian, gay, bisexual and non-normative sexual orientation participants showed signs of anxiety which might warrant further evaluation—that is, a moderate or severe GAD-7 score. Bisexual women had the highest level of anxiety (24%) and bisexual men had the lowest (13%; Figure 21).

FIGURE 21: Anxiety levels by sexual orientation



Anxiety did not appear to differ greatly by gender identity, either. Moderate/severe levels of anxiety were relatively similar across gender identities, ranging from 17% in cisgender men to 24% among transgender men and cisgender women (Figure 22).

FIGURE 22: Anxiety levels by gender identity



We used logistic regression to examine other factors that might impact differences in anxiety levels in our sample. However, only a relationship between depression and anxiety persisted in the model. This is expected as depression and anxiety commonly occur together.[8]

TABLE 17: Logistic regression model of adjusted odds ratios for anxiety (GAD-7 cut-off of 10): significant p-values only

Anxiety	AOR	95% CI	p
Depression (CES-D 10 score)	1.41	1.31 – 1.52	<0.001

AOR: adjusted odds ratio; CI: confidence intervals.

While we were unable to identify notable differences in anxiety levels within the study sample, our findings clearly suggest that sexual and gender minority Batswana may have more anxiety disorders than their cisgender, heterosexual counterparts. Based on the available estimate of the general population anxiety prevalence at roughly 3%, it is concerning that based on the GAD-7, 20% of our sexual and gender minority participants show signs of moderate of severe anxiety.

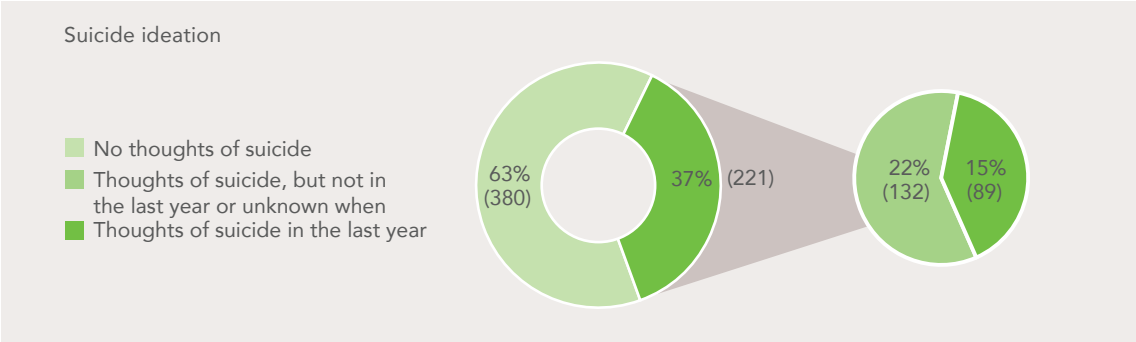
8 In this model where the binary variable for GAD-7 was the outcome, we adjusted for: depression (CES-D 10 score), alcohol and drug use (AUDIT and DUDIT scores), socioeconomic status (employment, financial security, and housing), thinking about suicide in the last year, suicide attempt in the last year, lifetime experiences of sexual violence, lifetime experiences of physical violence, whether the survey was administered by the participant or a fieldworker and age.

Suicidality

We asked four questions about suicide: whether participants had thought about ending their life (suicidal ideation) at some point in their lives, and in the past year; and whether participants had tried to end their own life (suicide attempt) at some point in their lives, and in the past year (see Table 15).

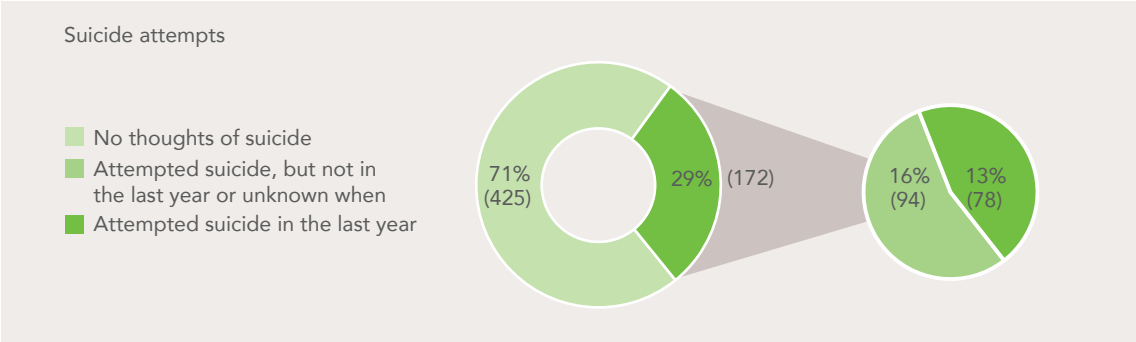
Figure 23 shows how many participants had ever thought about ending their life. More than one third of participants (37%) had thought about ending their life at least once at some point in their life. Fifteen percent of participants had thought about ending their life in the previous year.

FIGURE 23: Suicidal ideation



Almost one in three participants (29%) had tried to end their life at some point in their lives. One in eight participants (13%) had tried to end their life in the past year (Figure 24).

FIGURE 24: Suicide attempts, lifetime and previous year

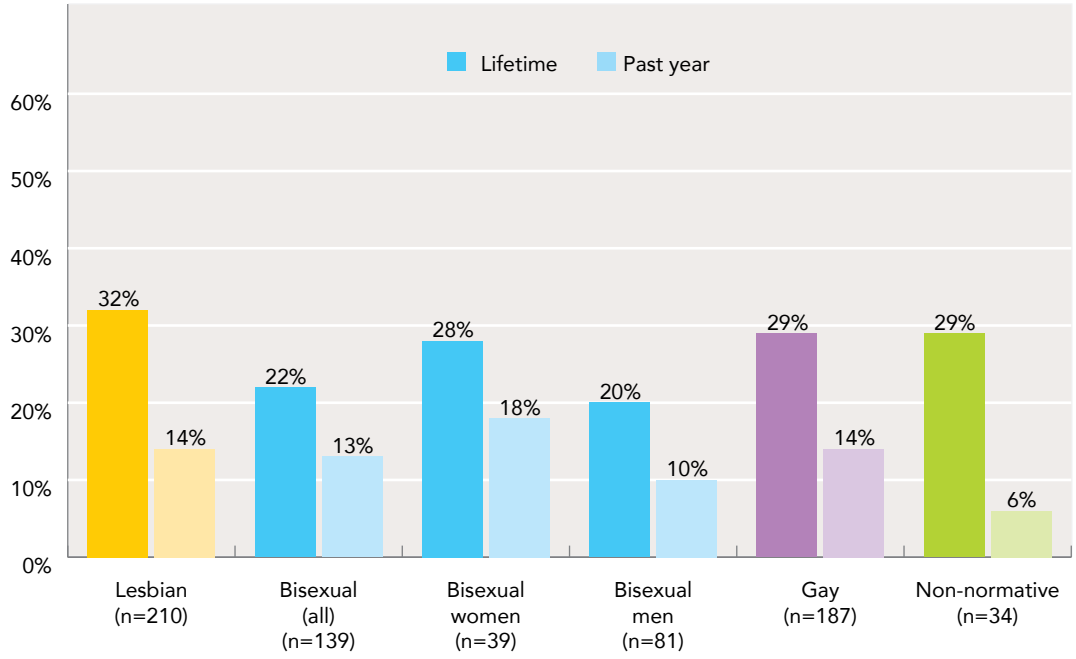


A systematic review conducted by King and colleagues (2008) highlights the higher risk of suicidality that sexual minority people experience, though only studies from North America, Europe and Australasia were eligible to be included (further highlighting the need for research on the African continent). Their meta-analysis suggests that sexual minority people have about twice the risk of attempting suicide compared to non-sexual minorities (King *et al.*, 2008).

When looking at suicide attempts by participants of different sexual orientations (Figure 25, see also Table 21, Table 22 and Table 23), lesbian participants had the highest level of attempted suicide, closely followed by gay participants and participants with non-normative sexual orientations (about one third in their lifetime, and one in eight in the past year).

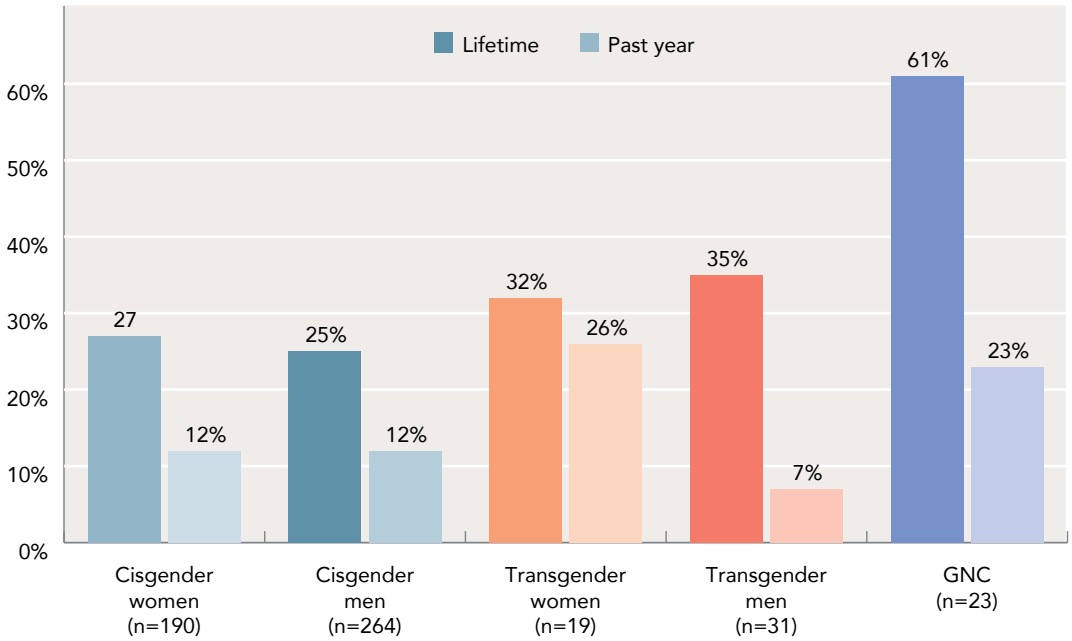
Gay and other men who have sex with men had the highest level of attempted suicide (one in four attempted to end their life at some point; one in five in the past year). Bisexual men had a 16% lifetime prevalence and 11% past year prevalence of suicide attempt.

FIGURE 25: Suicide attempts, by sexual orientation



When comparing cisgender and gender minority participants (Figure 26), we found higher levels of attempted suicide among gender minority participants than among cisgender participants. Almost two third of gender non-conforming participants had attempted suicide in their lifetime, and almost one in four in the past year (see also Table 26). Among transgender women and transgender men, it was about one third in their lifetime, and one in four transgender women in the past year. These findings are based on relatively small sample sizes, but warrant further investigation.

FIGURE 26: Suicide ideation and attempt by gender identity



Being depressed was significantly associated with suicidal ideation and suicide attempts in the past year (Table 18).[9]

TABLE 18: Logistic regression models of adjusted odds ratio for suicidal ideation and suicide attempt in the past year: significant p-values only

	AOR	95% CI	p
Suicidal ideation (last year)			
Depression (CES-D 10 score)	1.15	1.08 – 1.23	<0.001
Anxiety (GAD-7 score)	1.08	1.02 – 1.14	0.013
Age	0.91	0.85 – 0.97	0.005
Suicidal attempt (last year)			
Depression (CES-D 10 score)	1.13	1.06 – 1.21	<0.001
Age	0.90	0.84 – 0.97	0.005

AOR: adjusted odds ratio; CI: confidence intervals.

Examining the number of completed suicides among sexual and gender minority people in Botswana was beyond the scope of this research, and limits the interpretation of our findings. However, our findings highlight that it is vital to acknowledge that sexual and gender minority people in Botswana are particularly vulnerable to suicidality.

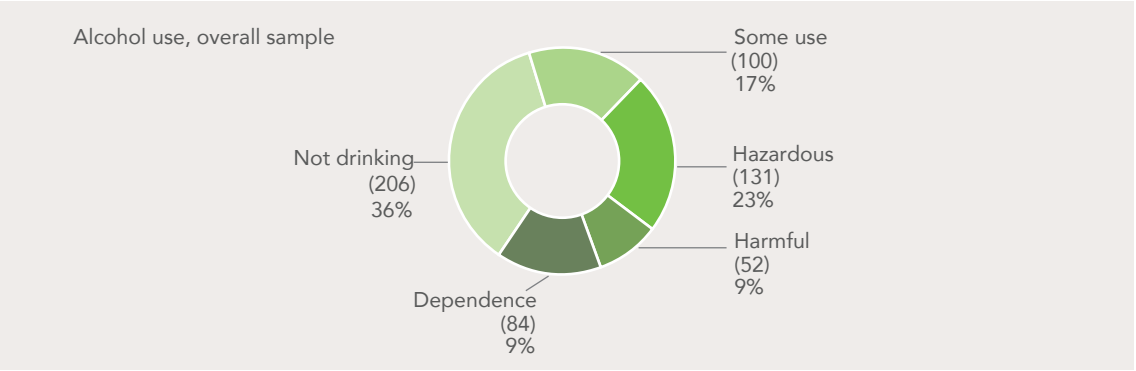
It may be useful to contextualise the level of suicidality among our sample against the prevalence of suicide attempts in another extremely vulnerable population. Rape survivors are widely understood to be at risk for suicide attempts, and recent research has found that in Botswana, 15% of rape survivors have attempted suicide in their lifetime (Machisa and van Dorp, 2012). By comparison, the level of suicide attempts among the sexual and gender minority Batswana participating in our study was more than double than that among rape survivors.

Alcohol use

We used the 10-item AUDIT instrument to ask participants about how much alcohol they consume, and the impacts of their drinking on their lives. Figure 27 shows the levels of alcohol use in the overall sample. Over a third of participants (36%) said they never drink alcohol. An additional 17% of participants drank some alcohol without health risks. However, almost half of study participants drank alcohol at a level that had risks for their health: 23% showed signs of hazardous use, 9% harmful use, and 15% showed signs of alcohol dependence.

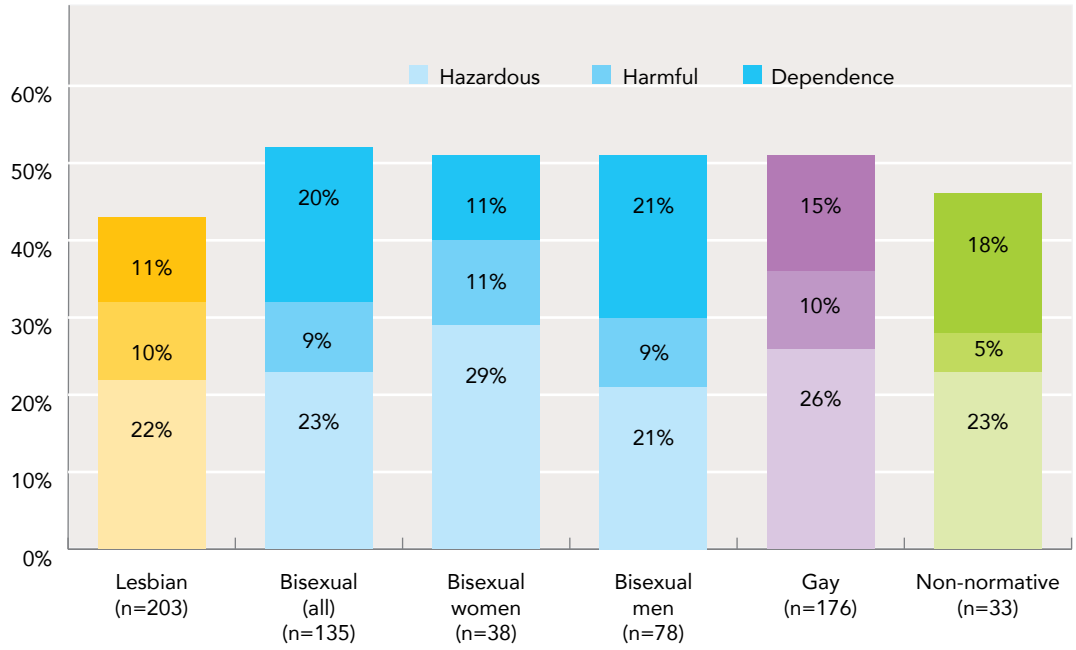
9 We ran two logistic regression models, one with past-year suicidal ideation as the outcome and one with past-year suicidal attempts as the outcome. In both models, we adjusted for: gender identity, sexual orientation, depression (CES-D 10 score), anxiety (GAD-7 score), alcohol and drug use (AUDIT and DUDIT scores), traumatic experiences (lifetime sexual and physical violence, signs of post-traumatic stress) socioeconomic status (employment, financial, security, and housing), whether the survey was administered by the participant or a fieldworker, and age.

FIGURE 27: Alcohol use, overall sample



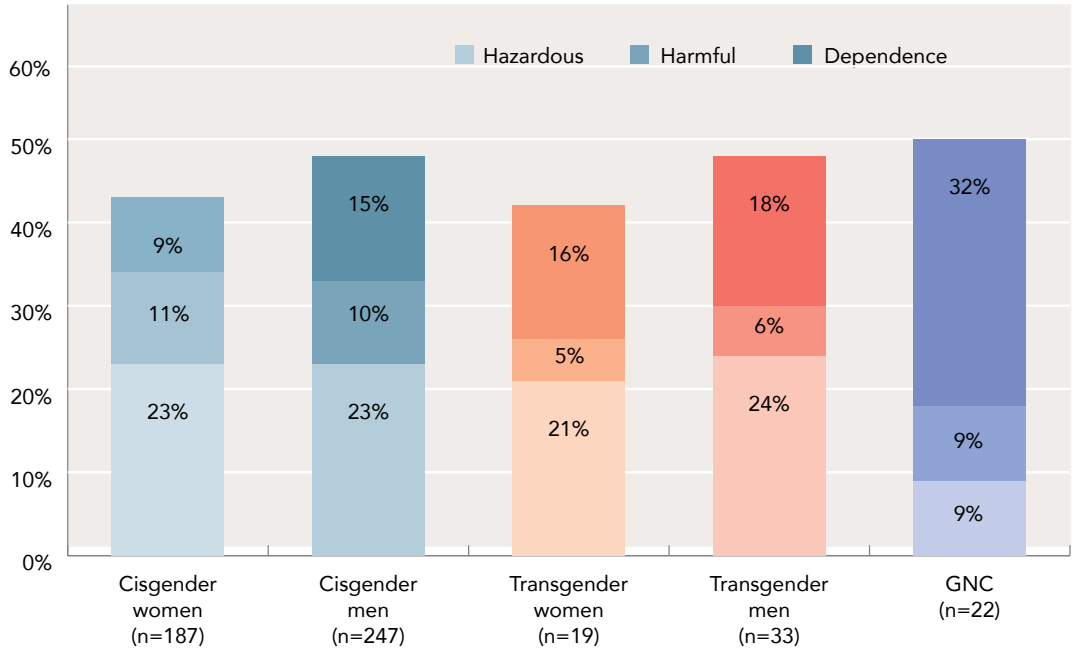
When looking at alcohol use by sexual orientation, we found fairly similar levels of alcohol use (Figure 28). Lesbian participants had the lowest level of hazardous/harmful/dependent drinking (43%), and bisexual participants the highest (52%).

FIGURE 28: Alcohol use by sexual orientation



Alcohol use was not very different by gender identity in our sample. However, it is notable that gender non-conforming people had the highest level of possible alcohol dependence: nearly one third (32%), as compared to the next highest, which was 18% of transgender men. These findings are based on relatively small sample sizes, but may warrant further investigation.

FIGURE 29: Alcohol use, by gender identity



After adjustment[10] we found a slight difference in alcohol use by sexual orientation. Bisexual participants and gay men were at least a little more likely to use alcohol in a harmful way than those with non-normative sexual orientations. There was also a very slight positive relationship between harmful alcohol use and anxiety and drug use, which would be expected as these conditions commonly occur together. Past experiences of physical and sexual violence were also at least somewhat associated with harmful alcohol use, suggesting that alcohol may be used as a coping mechanism following violent experiences that bring about posttraumatic stress (see the previous section, where we show that 43% of participants wo have experienced violence show signs of posttraumatic stress). Lastly, those who self-administered the questionnaire were more likely to report harmful alcohol use. It is possible that participants may feel more comfortable disclosing harmful alcohol use anonymously rather than telling a fieldworker.

TABLE 19: Logistic regression model of adjusted odds ratios for harmful alcohol use (AUDIT cut-off of 8): significant p-values only

Harmful alcohol use	AOR	95% CI	p
Drug use (DUDIT score)	1.10	1.05 – 1.15	<0.001
Anxiety (GAD-7 score)	1.05	1.00 – 1.10	0.047
Non-normative sexual orientation	-	Reference category	
Lesbian	2.02	0.80 – 5.07	0.136
Bisexual	2.87	1.11 – 7.37	0.029

10 In this logistic regression model, where the binary variable for AUDIT was the outcome, we adjusted for: depression (CES-D 10 score), anxiety (GAD-7 score), drug use (DUDIT score), socioeconomic status (employment, financial security, and housing), thinking about suicide in the last year, suicide attempt in the last year, lifetime experiences of sexual violence, lifetime experiences of physical violence, whether the survey was administered (filled out) by the participant or a fieldworker, and age.

Harmful alcohol use	AOR	95% CI	p
Gay men	3.04	1.21 – 7.64	0.018
Heterosexual	1.97	0.54 – 7.11	0.302
No experience of physical violence	-	Reference category	
Experienced physical violence (lifetime)	1.67	1.03 – 2.71	0.039
No experience of sexual violence	-	Reference category	
Experienced sexual violence (lifetime)	1.84	1.12 – 3.05	0.017
Fieldworker-administered survey	-	Reference category	
Self-administered survey	1.61	1.03 – 2.51	0.037

AOR: adjusted odds ratio; CI: confidence intervals.

At present there is a lack of data that is disaggregated by sexual orientation and gender identity in research on alcohol use (Flentje, Bacca and Cochran, 2015). International evidence on alcohol use among sexual minority people is somewhat mixed, although a 2008 systematic review shows that sexual minority people have higher levels of drinking than their heterosexual counterparts, and that sexual minority women may have more harmful use than sexual minority men (King *et al.*, 2008). It is unclear what motivates these differences or whether and how gender minority people were included in these studies.

In recent years, several new alcohol research studies have been reported with gender minority people, though these have almost exclusively taken place in settings outside of the African continent. A few North American studies suggest that gender minority people are more likely to have harmful drinking practices than cisgender people, and that 'gender minority stressors' (Gonzalez *et al* 2017), just like the minority stress factors that we explained in the introduction, may be associated with elevated drinking habits (Coulter *et al.*, 2015; Scheim, Bauer and Shokoohi, 2016; Gonzalez, Gallego and Bockting, 2017).

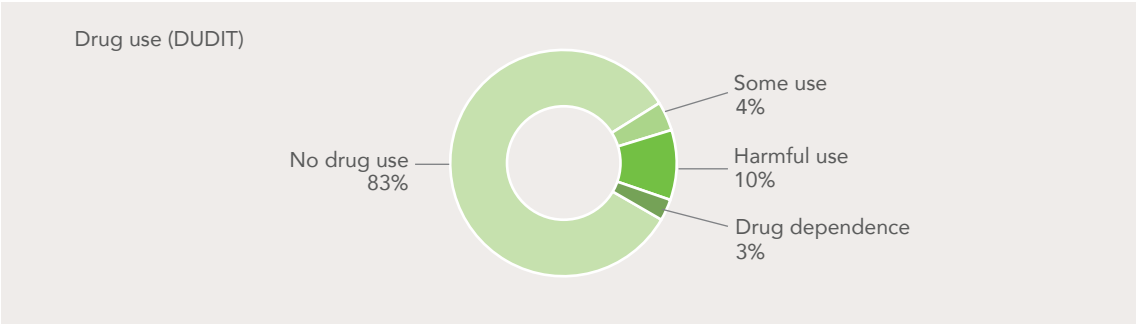
Compared with estimates provided by the WHO, *the level of alcohol dependence among our sample is more than three times higher than that of the general population in Botswana*. In the general population, dependence was estimated at 4.2% for 'males' and 0.7% for 'females' in 2010 (World Health Organization, 2014). In our study, 15% of cisgender sexual minority men and 9% of cisgender sexual minority women drank alcohol at levels that are classified as alcohol dependence.

Although a different measure was used, with a much smaller sample, a previous study with sexual minority Batswana also found alcohol use was common. This study found that 64% of their sexual minority participants drank more than two alcoholic drinks per day (Ehlers, Zuyderduin and Oosthuizen, 2001).

Drug use

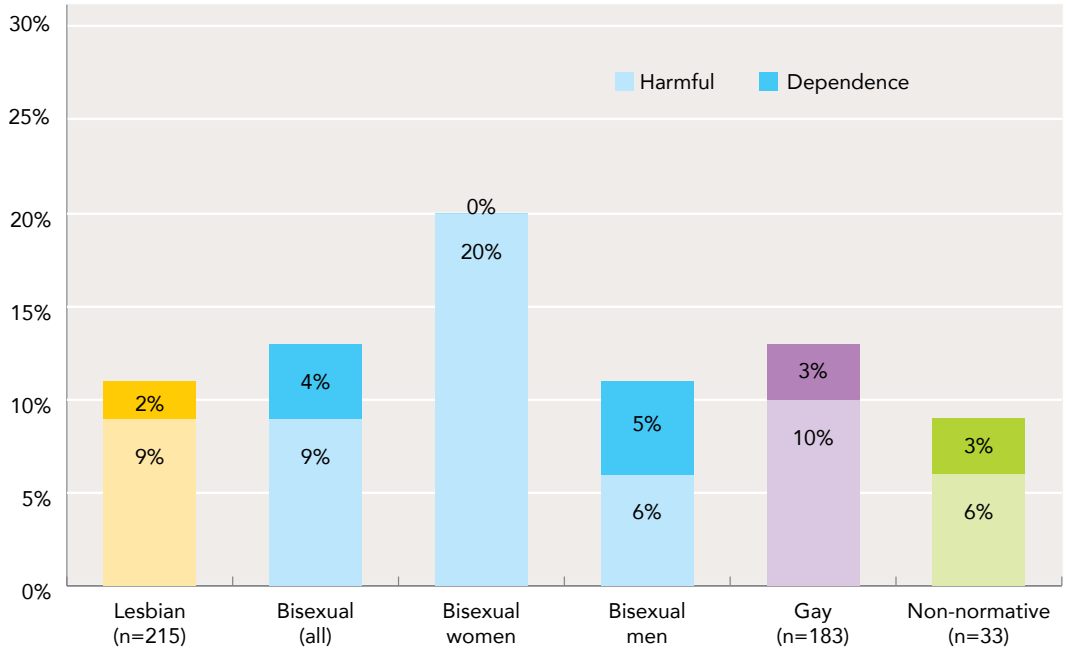
To measure levels of drug use among our sexual and gender minority sample, we used the DUDIT instrument (Figure 30). The majority of participants reported no drug use (83%), however, 13% of participants reported harmful levels of drug use, including drug dependence.

FIGURE 30: Drugs use levels in total sample



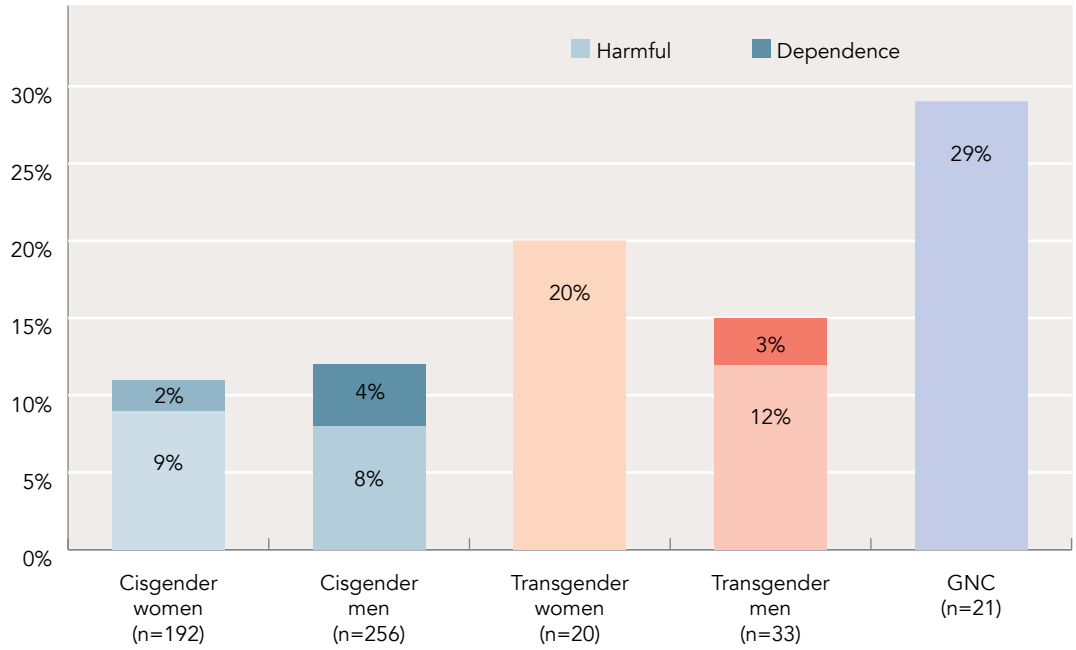
Overall, drug use was fairly similar by sexual orientation, with those with non-normative sexual orientation having the least harmful drug use (9%). Bisexual women had a high level of harmful drug use (20%; Figure 31).

FIGURE 31: Drug use, by sexual orientation



When examining drug use by gender identity, gender minority participants were more likely than cisgender participants to use drugs in a harmful way ($p<0.05$; Table 15). Transgender women and gender non-conforming participants had the highest levels of harmful drug use (20% and 29%, respectively; Figure 32).

FIGURE 32: Drug use, by gender identity



However, this difference between gender minority and cisgender participants disappeared after adjustment.[11] In the logistics regression model, we found that those with formal housing were more likely to use drugs in a harmful way.

TABLE 20: Logistic regression model of adjusted odds ratios for harmful drug use (DUDIT cut-off of 6): significant p-values only

Harmful drug use	AOR	95% CI	p
Alcohol use (AUDIT score)	1.08	1.00 – 1.13	0.048
Informal housing or homeless	-	Reference category	
Formal housing	0.26	0.08 – 0.85	0.026

AOR: adjusted odds ratio; CI: confidence intervals.

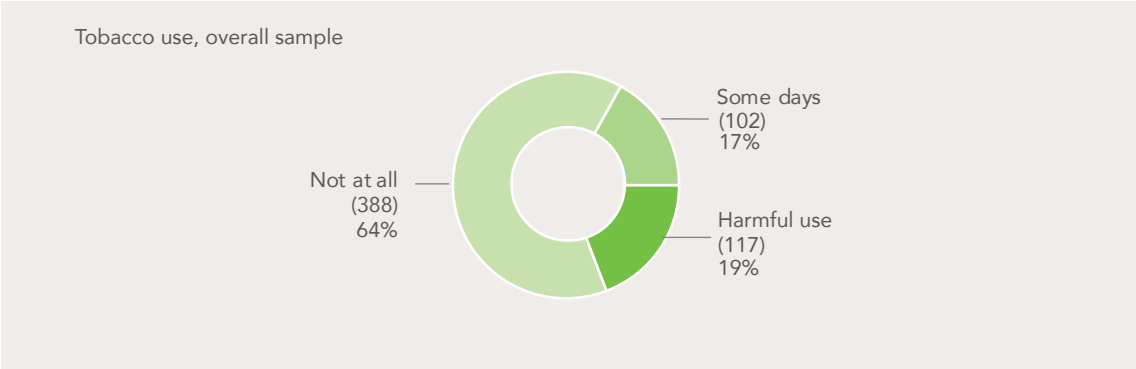
As with alcohol, some research from other settings suggests that harmful drug use is more common among sexual and gender minority people than cisgender, heterosexual ones. Parental discomfort with homosexuality and being gender non-conforming in childhood have been found to be associated with higher substance-use rates (Rosario *et al.*, 2014). There is currently no data on drug use in the general Batswana population, and therefore we cannot compare our findings to the general population.

11 In this logistic regression model, where the binary variable for AUDIT was the outcome, we adjusted for: depression (CES-D 10 score), anxiety (GAD-7 score), alcohol use (AUDIT score), socioeconomic status (employment, financial security, and housing), thinking about suicide in the last year, suicide attempt in the last year, lifetime experiences of sexual violence, lifetime experiences of physical violence, whether the survey was administered (filled out) by the participant or a fieldworker, and age.

Tobacco use

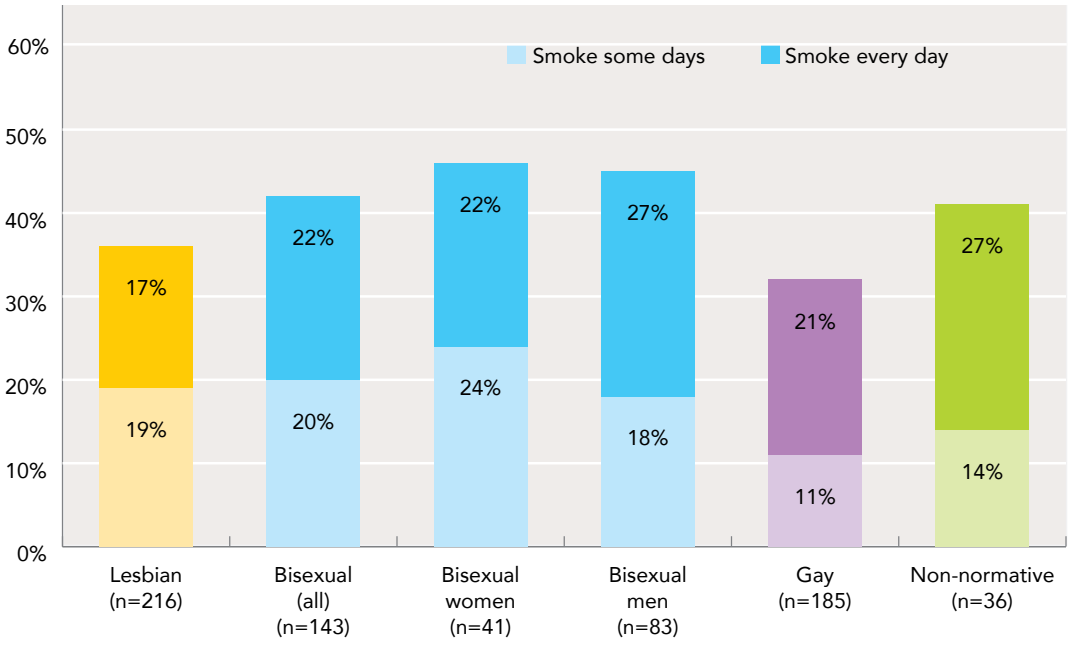
Forty-six percent of all participants reported that they smoke tobacco. Some smoked every day (19%) and some only on some days (17%) (Figure 33).

FIGURE 33: Participant tobacco use



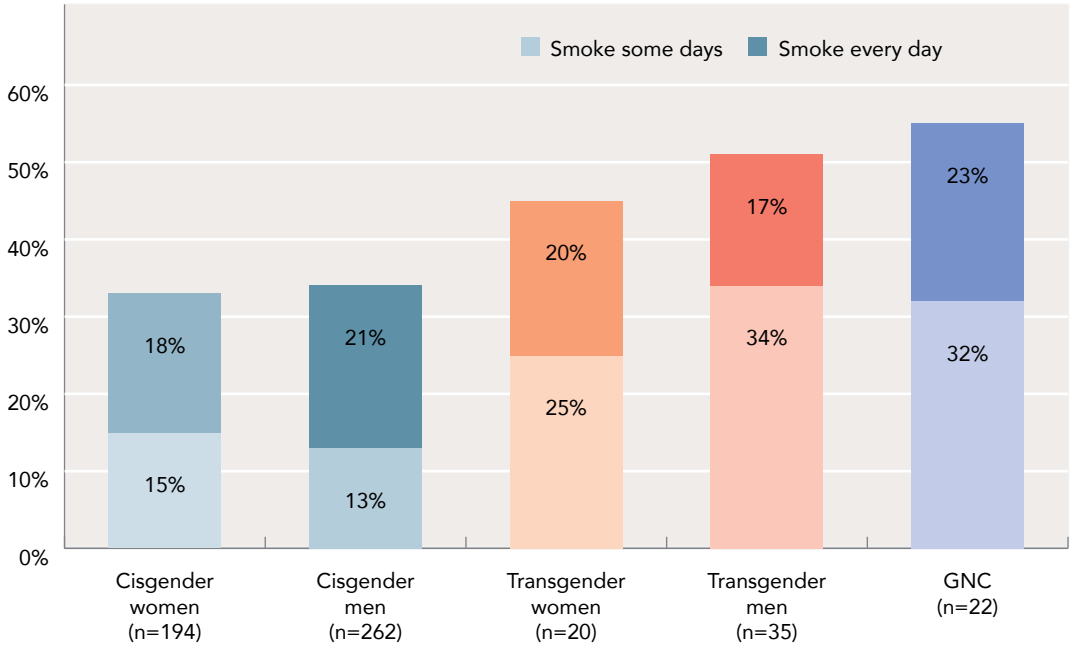
We saw some small differences in levels of smoking by sexual orientation. Gay men were the least likely to smoke (32%), whereas 46% of bisexual women and 45% of bisexual men reported smoking (Figure 34).

FIGURE 34: Tobacco use by sexual orientation



Gender minority participants were more likely to smoke than cisgender (sexual minority) participants ($p<0.05$; Table 15). Gender non-conforming people were the most likely to smoke in our sample (55%), followed by transgender men (51%; Figure 35).

FIGURE 35: Tobacco use by gender identity



Compared to prevalence data on smoking among Batswana adolescents (we were unable to find adult prevalence data), our findings were higher. The World Health Organization reported that 27% of 'male' adolescents and 21% of 'female' adolescents used some type of tobacco in the previous 30 days (World Health Organization, 2010). In our study, 34% of cisgender sexual minority men and 33% of cisgender sexual minority women smoked tobacco at least some days – among transgender men it was 45%, and among transgender women 51%. However, the levels of tobacco use in our sample may be higher because our participants were (1) adults and (2) asked about 'current' tobacco use, without a given timeframe.

International data on smoking and sexual and gender minority people is limited. What is available suggests that sexual and gender minority people have much higher rates of smoking tobacco than non-minorities (Blosnich, Lee and Horn, 2013; Lee *et al.*, 2014). Sexual minority people may have specific smoking risk factors, such as internalised homophobia and how they experience disclosure of their sexual orientation (Blosnich, Lee and Horn, 2013). Our findings seem to confirm this for Botswana.

Experiences of violence and health outcomes of lesbian participants

Lesbian participants include any person of any gender who self-identified their sexual orientation as 'lesbian', cisgender women who identified as 'gay' and trans women who self-identified as 'gay' and also had sex with or were attracted exclusively to women. There were 220 lesbian participants in the sample.

FIGURE 36: Gender identity of lesbian participants

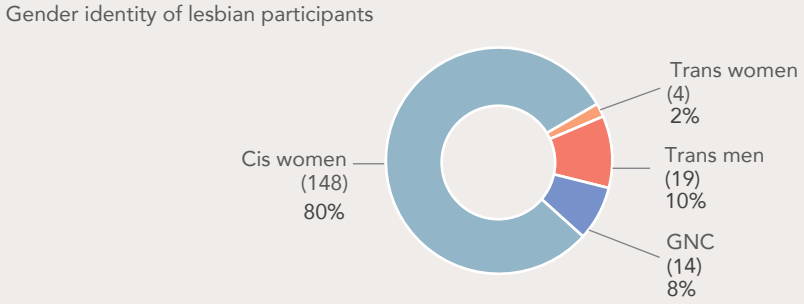


Table 21 shows the study findings for lesbian participants. Almost half of lesbian participants were classified as depressed (47%), and 22% showed signs of moderate or severe anxiety. One in three (32%) had attempted suicide in their lifetime. Forty-three percent drank alcohol at a level that was classified as harmful, hazardous or dependent, and one in ten (12%) used drugs at a harmful or dependent level. Half (51%) said that they had been verbally harassed for their sexual orientation or gender identity, one third (33%) had experienced physical violence, and just less than a third (30%) had experienced sexual violence. One in four (24%) had experienced physical violence by an intimate partner, and one in five (20%) sexual violence by an intimate partner.

TABLE 21: Health outcomes and experiences of violence of lesbian participants

	n	%
Depression	(n=216)	
Depressed (based on CES-D 10)	101	46.76
	(n=205)	
Ever been diagnosed with depression	19	9.27
	(n=19)	
Of these, currently treated for depression	12	63.16

	n	%
Anxiety	(n=213)	
Categorical		
Participants with no signs of anxiety	104	48.83
Participants with signs of mild anxiety	63	29.58
Participants with signs of moderate anxiety	23	10.80
Participants with signs of severe anxiety	23	10.80
Binary		
No/mild anxiety	167	78.40
Moderate/severe anxiety	46	21.60
	(n=205)	
Ever been diagnosed with anxiety	19	9.27
	(n=19)	
Of these, currently treated for anxiety	11	57.89

Suicidality	(n=212)	
Suicidal ideation, lifetime	88	41.51
	(n=210)	
Suicide attempt, lifetime	68	32.38
	(n=204)	
Suicidal ideation, past year	31	15.20
	(n=205)	
Suicide attempt, past year	29	14.15

Alcohol use	(n=203)	
Categorical		
No alcohol use	64	31.53
Some alcohol use	51	25.12
Hazardous use	45	22.17
Harmful use	21	10.34
Alcohol dependence	22	10.84
Binary		
No/some alcohol use	115	56.65
Hazard/Harm/ dependence	88	43.35

	n	%
Drug use	(n=215)	
Categorical		
No drug use	181	84.19
Some drug use	9	4.19
Harmful drug use	20	9.30
Drug dependence	5	2.33
Binary		
No/some drug use	190	88.37
Harmful use/ dependence	25	11.63
Tobacco use	(n=216)	
Don't smoke at all	139	64.35
Smoke some days	40	18.52
Smoke everyday	37	17.13
Verbal harassment for being LGBTI	(n=216)	
In lifetime	110	50.93
	(n=210)	
Past year	66	31.43
Sexual violence	(n=217)	
In lifetime	66	30.41
	(n=217)	
Past year	26	11.98
Physical violence	(n=217)	
In lifetime	71	32.72
	(n=217)	
Past year	41	18.89
Intimate partner, lifetime	(n=216)	
Sexual violence	43	19.91
	(n=215)	
Physical violence	52	24.19

Experiences of violence and health outcomes of gay participants

Gay participants include all cis and trans men who self-identified as gay, as well as trans women who self-identified as gay (trans women who self-identified as gay but were exclusively attracted to or having sex with women were not included here—see the section on lesbian participants). There were 191 gay participants in the sample.

FIGURE 37: Gender identity of gay participants

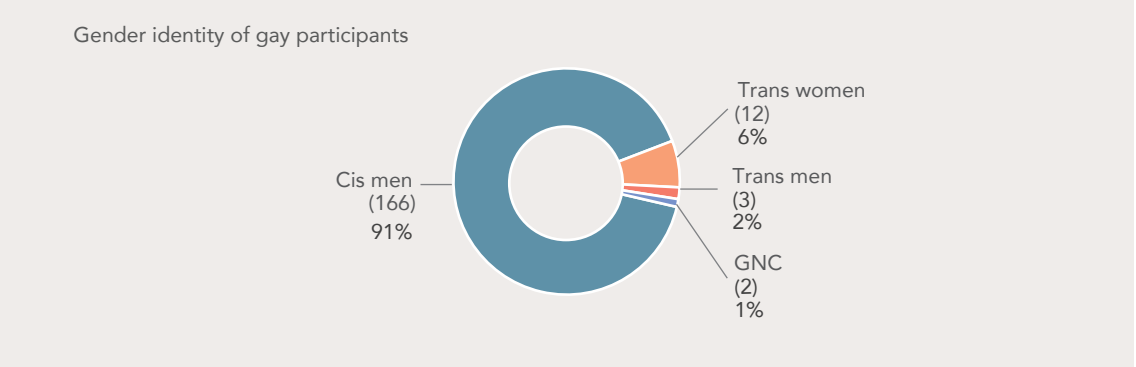


Table 22 shows the study findings for gay and other participants who have sex with men. Over a third of them were classified as depressed (37%), and one in five (20%) showed signs of moderate of severe anxiety. Almost one in three (29%) had attempted suicide in their lifetime. Half used alcohol at harmful, hazardous or dependent level, and 13% used drugs at that level. One third of gay participants (33%) used tobacco. More than half (56%) said that they had been verbally harassed for their sexual orientation or gender identity, almost a third (30%) had experienced physical violence, and a quarter (24%) had experienced sexual violence. Almost one in five (18%) had experienced physical violence by an intimate partner, and one in six (16%) sexual violence by an intimate partner.

TABLE 22: Health outcomes and experiences of violence of gay participants

	n	%
Depression	(n=188)	
Depressed (based on CES-D 10)	69	36.70
	(n=178)	
Ever been diagnosed with depression	14	7.87
	(n=12)	
Of these, currently treated for depression	7	58.33

	n	%
Anxiety	(n=181)	
Categorical		
Participants with no signs of anxiety	102	56.35
Participants with signs of mild anxiety	42	23.20
Participants with signs of moderate anxiety	23	12.71
Participants with signs of severe anxiety	14	7.73
Binary		
No/mild anxiety	144	79.56
Moderate/severe anxiety	37	20.44
	(n=185)	
Ever been diagnosed with anxiety	9	4.86
	(n=9)	
Of these, currently treated for anxiety	6	66.67

Suicidality	(n=188)	
Suicidal ideation, lifetime	71	37.77
	(n=187)	
Suicide attempt, lifetime	55	29.41
	(n=180)	
Suicidal ideation, past year	28	15.56
	(n=183)	
Suicide attempt, past year	26	14.21

Alcohol use	(n=176)	
Categorical		
No alcohol use	67	38.07
Some alcohol use	21	11.93
Hazardous use	45	25.57
Harmful use	17	9.66
Alcohol dependence	26	14.77
Binary		
No/some alcohol use	88	50.00
Hazard/Harm/ dependence	88	50.00

	n	%
Drug use	(n=183)	
Categorical		
No drug use	153	83.61
Some drug use	6	2.28
Harmful drug use	18	9.84
Drug dependence	6	3.28
Binary		
No/some drug use	159	86.89
Harmful use/ dependence	24	13.11
Tobacco use	(n=185)	
Don't smoke at all	126	68.11
Smoke some days	21	11.35
Smoke everyday	38	20.54
Verbal harassment for being LGBTI	(n=186)	
In lifetime	105	56.45
Past year	(n=179) 75	41.90
Sexual violence	(n=189)	
In lifetime	46	24.34
Past year	(n=189) 25	13.23
Physical violence	(n=189)	
In lifetime	57	30.16
	(n=189)	
Past year	28	14.81
Intimate partner, lifetime	(n=189)	
Sexual violence	30	15.87
	(n=189)	
Physical violence	34	17.99

Experiences of violence and health outcomes of bisexual participants

Bisexual participants include any person who self-identified as bisexual. We provide overall numbers for all bisexual participants, and also disaggregate findings for bisexual women (cis and trans women) and bisexual men (cis and trans men).

FIGURE 38: Gender identity of bisexual participants

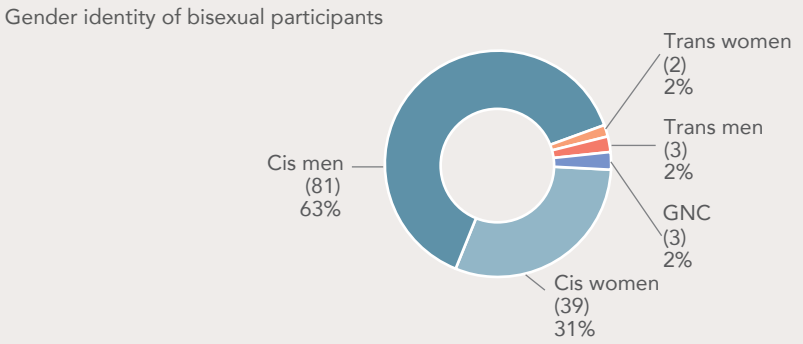


Table 23 shows the study findings for all bisexual participants, bisexual women and bisexual men. Over a third of all bisexual participants were classified as depressed (35%), and 17% showed signs of moderate or severe anxiety. More than one in five (22%) had attempted suicide in their lifetime. Half (52%) drank alcohol at a level that was classified as hazardous, harmful or alcohol dependence; and 13% used drugs at harmful or dependence level. Forty-three percent used tobacco. One third (33%) said that they had been verbally harassed for their sexual orientation or gender identity, one in three (33%) had experienced physical violence, and one in four (23%) had experienced sexual violence. One in five (20%) had experienced physical violence by an intimate partner, and one in seven (14%) had experienced sexual violence by an intimate partner.

In general, bisexual women showed higher levels of mental health concerns and had more experiences of violence. For example, bisexual women were experiencing significantly higher levels of physical violence by an intimate partner compared to bisexual men (30% vs. 13% respectively). However, all other differences between bisexual women and bisexual men were not statistically significant.

TABLE 23: Health outcomes and experiences of violence of bisexual participants

	All bisexual people (n=144)		**Bisexual women (n=41)**		**Bisexual men (n=84)**		
	n	%	n	%	n	%	p
Depression	(n=144)		(n=41)		(n=84)		0.844
Depressed (based on CES-D 10)	50	34.72	15	36.59	29	34.52	

	All bisexual people (n=144)		Bisexual women (n=41)		Bisexual men (n=84)		
	n	%	n	%	n	%	p
	(n=138)		(n=39)		(n=82)		0.084
Ever been diagnosed with depression	9	6.52	4	10.26	2	2.44	
	(n=9)		(n=4)		(n=2)		1.000
Of these, currently treated for depression	6	66.67	3	75.00	1	50.00	

Anxiety	(n=140)		(n=38)		(n=83)		0.021
Categorical							
No signs of anxiety	78	55.71	20	52.63	47	56.63	
Signs of mild anxiety	38	27.14	9	23.68	25	30.12	
Signs of moderate anxiety	15	10.71	3	7.89	10	12.05	
Signs of severe anxiety	9	6.43	6	15.79	1	1.20	
Binary							0.122
No/mild anxiety	116	82.86	29	76.32	72	86.75	
Moderate/severe anxiety	24	17.14	9	23.68	11	13.25	
	(n=140)		(n=38)		(n=84)		0.202
Ever been diagnosed with anxiety	10	7.14	4	10.53	3	3.57	
	(n=10)		(n=4)		(n=3)		1.000
Of these, currently treated for anxiety	5	50	2	50.00	2	66.67	

Suicidality	(n=141)		(n=40)		(n=82)		0.142
Suicidal ideation, lifetime	39	27.66	15	37.5	20	24.39	
	(n=139)		(n=39)		(n=81)		0.353
Suicide attempt, lifetime	31	22.30	11	28.21	16	19.75	
	(n=138)		(n=38)		(n=82)		0.052
Suicidal ideation, past year	20	14.49	9	23.68	8	9.76	
	(n=138)		(n=39)		(n=81)		0.244

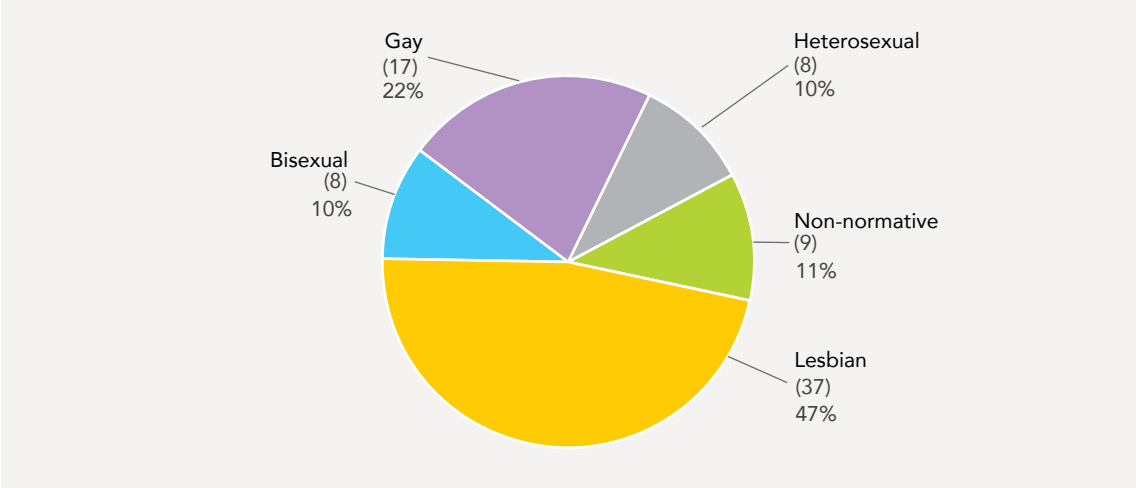
	All bisexual people (n=144)		Bisexual women (n=41)		Bisexual men (n=84)		
	n	%	n	%	n	%	p
Suicide attempt, past year	18	13.04	7	17.95	8	9.88	
Alcohol use	(n=135)		(n=38)		(n=78)		0.672
Categorical							
No alcohol use	47	34.81	14	36.84	28	35.90	
Some alcohol use	18	13.33	5	13.16	11	14.10	
Hazardous use	31	22.96	11	28.95	16	20.51	
Harmful use	12	8.89	4	10.53	7	8.97	
Alcohol dependence	27	20	4	10.53	16	20.51	
Binary							0.567
No/some alcohol use	65	48.15	19	50.00	39	50.00	
Hazard/Harm/ dependence	70	51.85	19	50.00	39	50.00	
Drug use	(n=141)		(n=41)		(n=81)		0.057
Categorical							
No drug use	118	83.69	31	75.61	70	86.42	
Some drug use	5	3.55	2	4.88	2	2.47	
Harmful drug use	13	9.22	8	19.51	5	6.17	
Drug dependence	5	3.55	0	0.00	4	6.94	
Binary							0.161
No/some drug use	123	87.23	33	80.49	72	88.89	
Harmful use/ dependence	18	12.77	8	19.61	9	11.11	
Tobacco use	(n=143)		(n=41)		(n=83)		0.687
Don't smoke at all	82	57.34	22	53.66	46	55.42	
Smoke some days	29	20.28	10	24.39	15	18.07	
Smoke everyday	32	22.38	9	21.95	22	26.51	

	All bisexual people (n=144)		Bisexual women (n=41)		Bisexual men (n=84)		
	n	%	n	%	n	%	p
Verbal harassment for being LGBTI	(n=144)		(n=41)		(n=84)		
In lifetime	48	33.33	13	31.71	26	30.95	1.000
Past year			(n=40)		(n=84)		
	28	19.72	6	15.00	15	17.86	0.801
Sexual violence	(n=144)		(n=41)		(n=84)		
In lifetime	33	22.92	11	26.83	16	19.05	0.358
Past year			(n=41)		(n=84)		
	15	10.42	4	9.76	7	8.33	0.749
Physical violence	(n=144)		(n=41)		(n=84)		
In lifetime	45	31.25	16	39.02	19	22.62	0.060
Past year	(n=144)		(n=41)		(n=84)		
	21	14.58	5	12.20	10	11.90	1.000
Intimate partner violence (lifetime)	(n=143)		(n=41)		(n=83)		
Sexual violence	20	13.99	8	19.51	9	10.84	0.266
Physical violence	(n=149)		(n=40)		(n=84)		
	29	20.42	12	30.00	11	13.10	0.029*

Experiences of violence and health outcomes of gender minority participants

Gender minority people include all women and men who we identified as transgender (may have self-identified their gender identity as women, trans women, men, trans men), as well as gender non-conforming (GNC) people. In total, 79 participants (13% of the overall sample) were a gender minority. Figure 39 shows the sexual orientations of gender minority participants.

FIGURE 39: Sexual orientation of gender minority participants



Gender affirming practices

It is worthwhile repeating the findings on gender affirming practices, as they relate directly to the health and well-being of transgender and gender non-conforming individuals. We asked gender minority participants about their access to, and use of gender affirming practices. To summarise the findings (detailed on on page 35), one in six participants who had been assigned female at birth used binders (17%), and 13% of participants who had been assigned male at birth tucked (see Table 24). Fifteen percent of gender minority participants used hormones for gender affirmation.

TABLE 24: Gender affirming practices

Gender minority participants		
	n	%
Binding (among those assigned female at birth, n=77)	13	16.88
Tucking (among those assigned male at birth, n=76)	10	13.16
Hormones (n=78)	12	15.38

Health outcomes and experiences of violence

Table 26 shows the health outcomes for all gender minority people, as well as for transgender women, transgender men and gender non-conforming people separately. Over half of all gender minority participants were classified as depressed (53%), and more than one in five (22%) showed signs of moderate or severe anxiety. Forty-three percent had attempted suicide in their lifetime. Almost half (47%) drank alcohol at a level that was classified as hazardous, harmful or alcohol dependence; and one in five (20%) used drugs at harmful or dependence level. Half (51%) used tobacco. More than half (56%) said that they had been verbally harassed for their gender identity, almost half (48%) had experienced physical violence, and more than one in three (38%) had experienced sexual violence. One in three (32%) had experienced physical violence by an intimate partner, and one in five (19%) had experienced sexual violence by an intimate partner.

The levels of mental health concerns and violence experienced were not equal between all

gender minorities: often, transgender women and gender non-conforming people had higher levels of mental health concerns and more experiences of violence. For example, gender non-conforming people have the highest levels of thinking about and attempting suicide in their lifetime (61% for ideation and attempt).

Compared to cisgender participants (who were all sexual minorities, so a marginalised group by themselves already) gender minority participants often showed higher levels of mental health concerns and higher experiences of violence. This is shown, for example, in the level of lifetime suicide attempts: 32% of transwomen had attempted suicide in their lifetime (compared to 27% of ciswomen); and 35% of transmen (compared to 25% of cismen). Among gender non-conforming participants, the level of lifetime suicide attempts was even higher, at 61%. Similarly, gender minority participants were more likely to have experienced violence than cisgender participants: 60% of transwomen had experienced physical violence (compared to 30% of ciswomen), and 45% of transwomen had experienced sexual violence (compared to 24% of ciswomen).

TABLE 26: Health outcomes and experiences of violence of gender minority participants

	All gender minority people (n=79)		**Transgender women (n=21)**		**Transgender men (n=35)**		**GNC people (n=23)**	
	n	%	N	%	n	%	n	%
Depression	(n=76)		(n=20)		(n=33)		(n=23)	
Depressed (based on CES-D 10)	40	52.63	11	55.00	19	57.18	10	43.48
	(n=68)		(n=18)		(n=30)		(n=20)	
Ever been diagnosed with depression	9	13.24	0	0.00	5	16.67	4	20.00
	(n=9)		(n=0)		(n=5)		(n=4)	
Of these, currently treated for depression	6	66.67	-		4	80.00	2	50.00
Anxiety	(n=74)		(n=18)		(n=33)		(n=23)	
Categorical								
No signs of anxiety	22	29.73	3	16.67	12	36.36	7	30.43
Signs of mild anxiety	36	48.65	11	61.11	13	39.39	12	52.17
Signs of moderate anxiety	7	9.46	1	5.56	4	12.12	2	8.70
Signs of severe anxiety	9	12.16	3	16.67	4	12.12	2	8.70
Binary								
No/mild anxiety	58	78.38	14	77.78	25	75.76	19	82.61
Moderate/severe anxiety	16	21.62	4	22.22	8	24.24	4	17.39

	All gender minority people (n=79)		Transgender women (n=21)		Transgender men (n=35)		GNC people (n=23)	
	n	%	N	%	n	%	n	%
	(n=74)		(n=20)		(n=33)		(n=21)	
Ever been diagnosed with anxiety	10	13.51	0	0.00	4	12.12	6	28.57
	(n=10)		(n=0)		(n=4)		(n=6)	
Of these, currently treated for anxiety	6	60.00	-		3	75.00	3	50.00
Suicidality	(n=74)		(n=19)		(n=32)		(n=23)	
Suicidal ideation, lifetime	35	47.30	6	31.58	15	46.88	14	60.87
	(n=73)		(n=19)		(n=31)		(n=23)	
Suicide attempt, lifetime	31	42.47	6	31.58	11	35.48	14	60.87
	(n=69)		(n=19)		(n=28)		(n=22)	
Suicidal ideation, past year	17	24.64	5	26.32	5	17.86	7	31.82
	(n=70)		(n=19)		(n=29)		(n=22)	
Suicide attempt, past year	12	17.14	5	26.32	2	6.90	5	22.73
Alcohol use	(n=74)		(n=19)		(n=33)		(n=22)	
Categorical								
No alcohol use	17	22.97	7	36.84	9	27.27	1	4.55
Some alcohol use	22	29.73	4	21.05	8	24.24	10	45.45
Hazardous use	14	18.92	4	21.05	8	24.24	2	9.09
Harmful use	5	6.76	1	5.26	2	6.06	2	9.09
Alcohol dependence	16	21.62	3	15.79	6	18.18	7	31.82
Binary								
No/some alcohol use	39	52.70	11	57.89	17	51.52	11	50.00
Hazard/Harm/ dependence	35	47.30	8	42.11	16	48.48	11	50.00
Drug use	(n=74)		(n=20)		(n=33)		(n=21)	
Categorical								
No drug use	57	77.03	15	75.00	28	84.85	14	66.67

	All gender minority people (n=79)		Transgender women (n=21)		Transgender men (n=35)		GNC people (n=23)	
	n	%	N	%	n	%	n	%
Some drug use	2	2.70	1	5.00	0	0.00	1	4.76
Harmful drug use	14	18.92	4	20.00	4	12.12	6	28.57
Drug dependence	1	1.13	0	0.00	1	3.03	0	0.00
Binary								
No/some drug use	59	79.73	16	80.00	28	84.85	15	71.43
Harmful use/ dependence	15	20.27	4	20.00	5	15.15	6	28.57
Tobacco use	(n=77)		(n=20)		(n=35)		(n=22)	
Don't smoke at all	38	49.35	11	55.00	17	48.57	10	45.45
Smoke some days	24	31.17	5	25.00	12	34.29	7	31.82
Smoke everyday	15	19.48	4	20.00	6	17.14	5	22.73
Verbal harassment for being LGBTI	(n=77)		(n=20)		(n=34)		(n=23)	
In lifetime	43	55.84	14	70.00	15	44.12	14	60.87
	(n=73)		(n=19)		(n=32)		(n=22)	
Past year	33	45.21	9	47.37	12	37.50	12	54.55
Sexual violence	(n=77)		(n=20)		(n=34)		(n=23)	
In lifetime	29	37.88	9	45.00	10	29.41	10	43.48
	(n=77)		(n=20)		(n=34)		(n=23)	
Past year	13	16.88	5	25.00	6	17.65	2	8.70
Physical violence	(n=77)		(n=20)		(n=34)		(n=23)	
In lifetime	37	48.05	12	60.00	13	38.24	12	52.17
	(n=77)		(n=20)		(n=34)		(n=23)	
Past year	21	27.27	7	35.00	7	20.59	7	30.43
Intimate partner violence	(n=77)		(n=20)		(n=34)		(n=23)	
Sexual violence	15	19.48	4	20.00	7	20.59	4	17.39
	(n=75)		(n=20)		(n=33)		(n=22)	
Physical violence	24	32.00	7	35.00	9	27.27	8	36.36

* Statistical significance at $p<0.05$.

STUDY LIMITATIONS

This study has some limitations that should be kept in mind when reading the findings of this report.

First, because we recruited through organisations, we were likely to have participants who are already receiving some kind of services through these organisations. This means that the levels of mental health problems that we report might be higher than in a general sample of LGBTI people (Hendricks and Testa, 2012). We have tried to limit this potential over-estimation by also recruiting participants online, which in other studies has shown to reduce the over-estimation (Rosser *et al.*, 2007). It is important to keep in mind, however, that even if the levels of mental health problems reported here are higher than among other LGBTI populations, they nevertheless present the current need for mental health support that our community partner organisations encounter through the services they offer.

Second, surveys that ask survivors of violence to report their experiences are likely to produce higher violence estimates than police-recorded administrative data. This is because often, violence is not reported to the police (which our findings confirm). Surveys with survivors of violence deal with incidents that do not necessarily match the legal definition of a violent crime. Although data from surveys with survivors of violence are likely to elicit better disclosure of experiences of violence than data from police records, they can also be subject to undercounting, because some survivors may be reluctant to speak about their experiences. We have tried to reduce this potential under-estimation by collecting data through community partner organisations, with which many participants have a trustful relationship.

Third, this is an exploratory study. Neither of our two sampling methods allow us to draw inferences beyond the constituency population, meaning we are not able to make predictions about larger LGBTI populations across the country or region. The findings from our study are therefore not representative of all LGBTI people in the participating countries.

Last, it is difficult to compare findings on LGBTI people's health across studies nationally and internationally. This is because there is currently no standardised way of measuring or identifying sexual orientation and gender identity. As others have observed (Bradford *et al.*, 2013), the "lack of a standardized methodology to measure self-reported experiences of direct discrimination, lack of psychometric measures regarding validity or reliability of instruments, potential reporting biases and measurement error, and variability in assessing chronic and acute exposures, as well as intensity, duration, and frequency of exposure" (Krieger, 1999) limit the current research evidence that we have on topics of discrimination and mental health.

CONCLUSION

Despite some limitations, our study is the first cross-sectional study to describe levels of mental health among lesbian, gay, bisexual, transgender and intersex people in Botswana. It shows that LGBTI people, regardless of their specific sexual orientation, gender identity or gender expression, have higher levels of depression, anxiety, suicidality, and substance use than the general population. LGBTI people are also more likely to experience verbal harassment, physical and sexual violence than the general population, and face sexual orientation- and gender identity-related barriers when trying to access healthcare.

The disaggregation of our findings shows that some sexual and gender minorities are at greater risk for mental health concerns and violence. Among sexual minorities, lesbian participants as well as bisexual women often showed higher rates of mental health concerns and had experienced more violence. This is likely due to the intersection of gender and sexual orientation: women already experience more violence than men because of pervasive heteropatriarchal norms and gender inequity. Sexual minority women then are vulnerable because of their gender, and have an additional risk that is related to their sexual orientation. We also see that compared to participants who are cisgender, gender minority participants showed higher rates of mental health concerns and had experienced more violence. This confirms existing literature that highlights the specific mental health risks and exposure to violence that are linked to gender identities that are not considered 'the norm' – transgender identities and gender non-conformity (Winter *et al.*, 2016).

The findings from our study confirm that in Botswana, as described in other parts of the world (Meyer, 2003; Hatzenbuehler *et al.*, 2014), social exclusion, marginalisation and stigma due to non-normative sexual orientation and/ or gender identity have a negative impact on the mental health and wellbeing of people who identify as lesbian, gay, bisexual, transgender or intersex. Specifically, the findings in our study show that lesbian, gay, bisexual, transgender and intersex people living in Botswana, including men who have sex with men and women who have sex with women, have a higher burden of mental health concerns than exists in the general population. This high burden of mental health concerns is, at least in part, due to experiences of violence, stigma, prejudice and discrimination at individual and institutional level. Sections 164 (a) and (c) and 165 and 167 of the Penal Code of Botswana, which criminalise same-sex activity, codify sexual orientation and gender identity-related stigma, prejudice and discrimination into the Penal Code (Krieger, 1999), and therefore contribute to the high levels of mental health disorders among sexual and gender minority people living in Botswana, including men who have sex with men and women who have sex with women.

The findings from our study demonstrate the need for mental health services that are affirming of sexual and gender diversity, and are provided without sexual orientation and gender identity-related stigma, prejudice and discrimination. The prevalence of mental health concerns among sexual and gender minority people in Botswana is higher than the prevalence of HIV among high-risk sexual and gender minority people in Botswana. It is thus clear that affirming and non-judgmental mental healthcare services for sexual and gender minority people are at least as important as HIV-related health services. This is not just to improve mental health and wellbeing, but also to support efforts to decrease the vulnerability to HIV.

In 2014, the African Commission for Human and People's Rights (ACHPR) passed Resolution 275, which calls for the protection from violence based on real or perceived sexual orientation and gender identity and proposes specific obligations for African states (ACHPR, 2014). At a joint dialogue of the ACHPR, the Inter-American Commission on Human Rights and the UN, participants concluded that: "[d]ata and evidence is critical to understand the extent and gravity of violations and to advocate for the adoption of measures to prevent, address and redress human rights violations faced by [sexual and gender minorities]" (ACHPR, 2016). The findings from our study provide such data and evidence for Botswana. The high levels of violence experienced by sexual and gender minority people in Botswana highlight the need for better access to justice (for people who decide to report such violence), and the need for non-judgmental support for sexual and gender minority survivors of violence. Survivors of violence need to have access to mental health services to support them in coping with the consequences of the violent experience. Further, survivors of violence need support to report violence to state authorities, and to take such cases through the criminal justice system.

RECOMMENDATIONS

Recommendations for national government

- Decriminalise same-sex activity: legal reform to abolish Sections 164 (a) and (c) and 165 and 167 of the Penal Code of Botswana, which contribute to sexual orientation and gender identity-related stigma, prejudice and discrimination against sexual and gender minority people living in Botswana, including men who have sex with men and women who have sex with women.
- Support the work of civil society organisations who provide services, including mental healthcare, for LGBTI populations;
- Improve access to mental health services for LGBTI populations:
    - Ensure that mental health services are affirming of sexual and gender diversity;
    - Ensure that mental health services are provided without sexual orientation and gender identity-related stigma, prejudice and discrimination;
    - We recommend following the guidelines on sexual and gender diversity published by the Psychological Association of South Africa;
    - Include mental health assessments, care and referrals if necessary into the HIV-related package of care for key populations.

- Build knowledge, skills and capacity within the public health sector to reduce sexual orientation and gender identity-related stigma, prejudice and discrimination in healthcare:
    - Provide mandatory sensitisation on sexual orientation, gender identity and expression, as well as values clarification, for healthcare providers at health facilities;
    - Provide continuous professional development education and training for healthcare providers to raise awareness of the mental health needs of LGBTI people in Botswana;
    - Include teaching on sexual orientation and gender identity-related health concerns into health professions education.

Recommendations for civil society organisations

- For LGBTI civil society organisations:
    - Provide affirming counselling services for LGBTI people, and actively raise funds for such services;
    - Recognise that staff at LGBTI civil society organisations may have experiences with violence, or mental health concerns, and prioritise interventions and programmes for staff well-being;
    - Include mental health as an important aspect of the health of LGBTI people in advocacy, programming and outreach work;
    - Build relationships and referral services with mental healthcare providers who are willing to provide LGBTI-affirming services.

- For civil society organisations providing services to survivors of violence:
    - Ensure that all staff, especially psychosocial and court support staff, are able to provide affirming services to LGBTI survivors of violence;
    - Actively build links to LGBTI civil society organisations.

Recommendations for donors

- Provide funding for services, programming and advocacy work linked to mental health and sexual orientation, gender identity and expression;
- Raise awareness of the need for mental health services and education for LGBTI people with other donors;
- Ensure that funds for violence prevention and programming build programmes that are LGBTI inclusive

Recommendations for academics and researchers

- Work with civil society organisations to establish research priorities and thematic areas, and fully and meaningfully involve civil society organisations in research projects:
    - Follow existing guidelines on how to work with LGBTI populations in health-related research, for example the Guidelines for Conducting Participatory Social Research with Key Populations and Marginalised Communities (KP Reach, 2018).
    - Meaningfully include civil society organisations in the development of research proposals, including in budget items.

- Include demographic data on sexual orientation and gender identity and expression in population-based studies, in order to expand the knowledge base on sexual orientation, gender identity and expression and health.
- Conduct research, in partnership with civil society organisations, to further understand the mental health and well-being of LGBTI populations in Botswana.

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GLOSSARY OF TERMS RELATED TO SEXUAL ORIENTATION, GENDER IDENTITY AND EXPRESSION

Bisexual	People who are emotionally, romantically and/or sexually attracted not exclusively to people of one particular gender; attracted to both men and women.
Cisgender	Denoting or relating to a person whose sense of personal identity and gender corresponds with the sex assigned to them at birth.
Gay	A person who is emotionally, romantically and/or sexually attracted to persons of the same gender.
Gender expression	External appearance of one's gender identity, usually expressed through behaviour, clothing, haircut or voice, and which may or may not conform to socially defined behaviours and characteristics typically associated with being either masculine or feminine.
Gender identity	One's innermost concept of self as man, woman, a blend of both or neither – how individuals perceive themselves and what they call themselves. One's gender identity can be the same or different from their sex assigned at birth.
Gender minority	Gender minority refers to transgender and gender non-conforming/ gender diverse people whose gender identities or gender expressions fall outside of the social norms typically associated with the sex assigned to them at birth.
Gender non-conforming	A broad term referring to people who do not behave in a way that conforms to the traditional expectations of their gender, or whose gender expression does not fit neatly into a category.
Intersex	Intersex is an umbrella term for individuals who are born with sex characteristics that are, according to the typical understanding in society, either female and male at the same time, or not quite female or male, or neither female or male. This diversity can be related to chromosomes, hormones or anatomical features, and is not pathological.
Heterosexual	A person who is emotionally, romantically and/or sexually attracted to persons of the opposite gender.
Lesbian	Term used to describe female-identified people attracted romantically, sexually, and/or emotionally to other female-identified people.
LGBT, LGBTI	An acronym that refers to lesbian, gay, bisexual, transgender (and intersex if the 'I' is included) people. Often used together to refer to a shared marginalisation because of sexual orientation, gender identity and expression (and diversity of sex characteristics).

Sex assigned at birth	The assignment and classification of people as male, female, intersex, or another sex assigned at birth, often based on physical anatomy at birth and/or karyotyping.
Sexual activity	Sexual activity which includes sexual acts and sexual contacts, is the manner in which humans experience and express their sexuality.
Sexual attraction	Sexual attraction is attractiveness on the basis of sexual desire or the quality of arousing that interest. It is inherent to a person, and not a choice.
Sexual identity	Sexual identity is how someone thinks of him/herself in terms of to whom he/she is romantically or sexually attracted.
Sexual minority	A group whose sexual identity, orientation or practices differ from the majority of the surrounding society.
Sexual orientation	An enduring emotional, romantic, sexual or affectional attraction or non-attraction to other people. It is inherent to a person, and not a choice. Sexual orientation is not the same as gender identity.
Transgender	An umbrella term for people whose gender identity and/or expression is different from cultural expectations based on the sex they were assigned at birth. Being transgender does not imply any specific sexual orientation. Therefore, transgender people may identify as straight, gay, lesbian, bisexual, etc.
Transgender man	A person who identifies as a man, but was assigned a female sex at birth.
Transgender woman	A person who identifies as a woman, but was assigned a male sex at birth.

GLOSSARY OF TERMS RELATED TO THE STATISTICAL ANALYSIS

Adjusted Odds Ratio (AOR)	A statistical value that measures how strong an association between two variables might be. Odds ratio is a measure of association between an exposure and an outcome. Adjusted odds ratio is an Odds ratio which is adjusted for potential confounding by other variables.
Community-based sampling	Community-based sampling is a sampling methodology in which the researchers take their study participants (sample) from the community in general.
Confidence interval (CI)	Confidence intervals help us determine what the real value of a statistically calculated value might be. A confidence interval gives an estimated range of values which is likely to include an unknown population parameter, the estimated range being calculated from a given set of sample data.
Demographics	Properties of an individual or sample that can be regarded as factual, often used to structure a research sample. These include for example age, gender, sex, social class, working status and geographic location.
Descriptive statistics	Descriptive statistics are brief descriptive coefficients that summarize a given data set, which can be either a representation of the entire or a sample of a population. Descriptive statistics are broken down into measures of central tendency and measures of variability.
Electronic Data Management System (EDMS)	An Electronic Data Management System (EDMS) is a software package designed to manage electronic information and records within an organization's workflow.
Logistic regression model	Logistic regression is used to obtain odds ratio in the presence of more than one independent variable. It is used to analyse the relationship between two and more variables.
Mean	Mean is the most commonly used measure of central tendency. There are different types of mean inclusive of: arithmetic mean, weighted mean, geometric mean, and harmonic mean. If mentioned without an adjective (as mean), it generally refers to the arithmetic mean, which is computed by adding all the values in the data set divided by the number of observations in it.
Multiple imputation	Multiple imputation is a general approach to the problem of missing data that is available in several commonly used statistical packages. It aims to allow for the uncertainty about the missing data by creating several different plausible imputed data sets and appropriately combining results obtained from each of them.
Online-based sampling	Online-based sampling is a sampling method from a population of individuals when the primary method of gathering the responses to a given survey comprising a set of questions contained in a questionnaire with the purpose of identifying the attitudes of the given population, is over the Internet.

p-value	The p-value or probability value is a statistical test to assess if what we can see in the data is there by chance. The smaller the p value, the less likely it is that what we see in the data is coincidental.
Pilot survey	A pilot survey is conducted with few individuals of the target population or the sample of a survey, in order to test and refine the survey instruments (questionnaire and instruction manual, data processing manual and programmes) before the main data collection starts across the target population or the full sample.
Prevalence	Prevalence refers to the total number of individuals in a population who have a disease or health condition at a specific period of time, usually expressed as a percentage of the population.
Protocol	A (research) protocol is a detailed document that describes the background, rationale, objectives, design, methodology, statistical considerations, and organization of a clinical research project.
Protocol violation	A divergence from the protocol that reduces the quality or completeness of the data, makes the Informed Consent Form inaccurate, or impacts a participant's safety, rights, or welfare.
Sample	In statistics, a sample refers to a set of observations drawn from a population.
Sample size	Sample size is the number of observations in a sample, often denoted with "n". It describes the number of participants who have filled out a survey, and whose answers have been taken into account when analysing the data.
Survey	A survey is an investigation about the characteristics of a given population by means of collecting data from a sample of that population and estimating their characteristics through the systematic use of statistical methodology.
Questionnaire administration	The process of asking questions and recording the answers.
Self-administration	When the questionnaires are read and filled by the respondents themselves, the questionnaire administration is called self-administration.
Fieldworker-administration	When a fieldworker read the questions to the participant, the questionnaire administration is called Fieldworker-administration.
Variable	A variable is a characteristic of a unit being observed which may assume more than one of a set of values, to which a numerical measure or a category from a classification can be assigned.
Binary variable	A binary variable is a variable with only two values.
Continuous variable	A continuous variable is a variable that has an infinite number of possible values.

APPENDIX 1: DETAILED METHODOLOGY

Measures: Sexual orientation and gender identity

Survey questions

In order to paint a nuanced picture of the participants' sexual orientation, we aimed to assess self-identified sexual identity, sexual attraction and sexual behaviour. We asked the following questions:

1. **Self-identified sexual identity** was assessed by asking participants "In terms of your sexual orientation, how do you identify?" (Options: Lesbian, Bisexual, Gay, Heterosexual, Asexual, "Other, specify")
2. **Attraction**[12] was assessed by asking participants who they were sexually and emotionally attracted to (2 questions).
3. **Sexual activity** was assessed by asking participants about who they have had "sexual experiences with in the past year and their lifetime" (2 questions).

For attraction and sexual activity, the questionnaire gave participants a list of options from which they could select all that applied (Options: With women, with men, with trans women, with trans men, with gender non-conforming people, with intersex people, "I have not had sexual experiences", "Other, specify").

To measure a participant's gender identity, we combined three questions:

4. **Self-identified gender identity** was assessed by asking "In terms of your gender identity, how do you identify?" (Options: Woman, Man, Trans woman, Trans man, Gender non-conforming, "Other, specify").
5. We asked about **sex assigned at birth** (Options: Male, Female, Intersex)
6. Additionally, we asked what sex/ gender was recorded in the participant's identity document(s)

Categorisation for analysis

Throughout this report, we use categories of sexual orientation (lesbian, gay, bisexual, 'non-normative', and heterosexual) and gender identity (cisgender women, cisgender men, transgender women, transgender men and gender non-conforming people) to disaggregate the findings about experiences of violence and mental health outcomes. To create these categories, we in some instances had to re-code the way participants self-identified, based on the other

12 Transgender men who had sex with women and identified as heterosexual were grouped as 'heterosexual'. While grouping transgender men who identify as gay and who are attracted to and have sex with women as 'lesbian' does not completely accurately capture their self-defined identity, we felt it would have been even less accurate to group them with cisgender men who have sex with men.

information they provided in the questions about their sexuality and gender identity. Re-coding in these categories was done in the following ways:

Sexual orientation

- *Lesbian (and other women who have sex with women)*: any participant who identified 'lesbian' as their sexual orientation; any cisgender woman who identified 'gay' as their sexual orientation; any transgender woman who identified as 'gay' and was sexually attracted to/has sex with women; any transgender man who identified as 'gay' and was sexually attracted to/has sex with women[13]; any cisgender or transgender woman who identified as 'heterosexual' but exclusively had sex with women in the past year; any cisgender or transgender woman who identified as 'heterosexual,' had not had sex with anyone in the past year and was exclusively sexually attracted to women; gender non-conforming people who identify as gay and have sex exclusively with women.
- *Gay (and other men who have sex with men)*: Any transgender or cisgender man, gender non-conforming person, or 'other' gender identity who identified their sexual orientation as 'gay'; any transgender woman who identified as 'gay' and was sexually attracted to/has sex with men[14]; men who identified their sexual orientation as 'homosexual' or 'MSM'; any cisgender or transgender man who identified as 'heterosexual' but exclusively had sex with men in the past year; any cisgender or transgender man who identified as 'heterosexual,' had not had sex with anyone in the past year and was exclusively sexually attracted to men.
- Bisexual: any participant who identified as 'bisexual'.
- *Non-normative sexual orientation*: We were cognisant that the more widely used sexual orientations (lesbian, gay, bisexual) depend on the assumption of a gender binary: one can only classify their sexual orientation if one's own gender and one's partner's gender is either woman or man; ie. lesbian means that one identifies as a woman and is attracted to or has sex with other women (Better and Simula, 2015). If one's partner identifies as gender non-conforming, it is not possible to classify one's sexual orientation as lesbian (a woman attracted to women), gay (a man attracted to men) or bisexual (a woman or a man attracted to both men and women). For those participants whose sexual orientation transgressed the gender binary, and for participants who did not fit the gender binary needed to classify their sexual orientation as lesbian, gay or bisexual, we created a new category: that of 'non-normative' sex orientation. The 'non-normative' indicates that they could not be classified as any of the more widely used sexual orientations (lesbian, gay or bisexual). A lot of these participants had listed their sexual orientation as 'other' – including for example, queer or pansexual. Additionally, it includes participants who identified as 'heterosexual' and who reported having sex with people of more than one sex/gender in the past year.
- *Heterosexual*: any participant who identified as 'heterosexual' and had sex with only people of a different sex/gender in the past year.

13 Transgender men who had sex with women and identified as heterosexual were grouped as 'heterosexual'. While grouping transgender men who identify as gay and who are attracted to and have sex with women as 'lesbian' does not completely accurately capture their self-defined identity, we felt it would have been even less accurate to group them with cisgender men who have sex with men.

14 See previous footnote. Transgender women who had sex with men and identified as heterosexual were grouped as 'heterosexual'. While grouping transgender women who identify as gay and who are attracted to and have sex with men as 'gay' does not completely accurately capture their self-defined identity, we felt it would have been even less accurate to group them with cisgender women who have sex with women.

Gender identity

- *Transgender women*: Those who self-identified as trans women; those who self-identified as women and were assigned male at birth.
- *Transgender men:* those who self-identified as trans men; those who self-identified as men and were assigned female at birth.
- *Gender non-conforming:* those who self-identified as gender non-conforming, regardless of sex assigned at birth.

Measures: Mental health

CES-D 10: Depression

We used the instrument CES-D 10, a 10-item Center for the Epidemiological Studies of Depression Short Form to measure depression. It is widely used to screen for signs of depression in primary care settings, and is often used for research on the prevalence of depression. It is important to keep in mind, however, that we cannot diagnose people using the CES-D 10. In order to receive a definitive diagnosis of clinical depression, an individual needs to see a healthcare provider.

We followed the CES-D 10 instructions to categorise scores into a binary variable, using a cut-off score of 10, where participants with a CES-D 10 score of 10 or above were considered to have signs of depression and those with a score under 10 were classified as not having signs of depression. Additionally, we report only on participants who had no more than two missing values on the CES-D 10 items (Radloff, 1977). However, for logistic regression models including CES-D 10 as a covariate, the continuous variable of the CES-D 10 score was used and multiple imputation was used for missing values. For the logistic regression model where the CES-D 10 score was the outcome, the binary variable was used.

GAD-7: Anxiety

The Generalized Anxiety Disorder 7-item scale (GAD-7) uses seven scored Likert items that assess signs of anxiety in the last two weeks. We created a categorical variable with the following cut-off scores: score of 0 to 4 indicates no anxiety symptoms; score of 5 to 9 indicates mild anxiety symptoms; score of 10 to 14 indicates moderate anxiety symptoms; score of 15 or above indicates severe anxiety symptoms. We also created a binary variable using a score of 10 as a cut-off to compare no/mild anxiety with moderate/severe anxiety, which was used for the logistic regression model where GAD-7 score was the outcome (Kroenke, Spitzer and Williams, 2001; Spitzer *et al.*, 2006). We excluded participants who had missing data for any GAD-7 items from GAD-7 scoring. In logistic regression models in which GAD-7 was a covariate, we used the continuous GAD-7 score, and used multiple imputation to impute missing data.

AUDIT: Alcohol

The Alcohol Use Disorders Identification Test (AUDIT) uses 10 items to assess whether an individual's alcohol use is harmful. The questions ask about how often participants drink alcohol, how much, and how their alcohol use has impacted their life (e.g. "Have you or someone else been injured because of your drinking?"). Participants who do not drink have an AUDIT score of 0. For those who do drink, we followed the AUDIT manual to create a categorical variable

with the following cut-offs: score of 1 to 7 indicates non-hazardous alcohol use; score of 8 to 15 indicates hazardous use; score of 16 to 19 indicates harmful use; score of 20 and above indicates alcohol dependence. We excluded participants who had missing data for any AUDIT items from AUDIT scoring. For the logistic regression model where AUDIT was the outcome, we used a binary variable with a cut-off score of 8 (Barbor *et al.*, 2001). In logistic regression models in which AUDIT was a covariate, we used the continuous AUDIT score. We used multiple imputation to impute missing data for the regression models.

DUDIT: Drugs

The Drug Use Disorders Identification Test (DUDIT) is a scale with 11 items to assess harmful drug use. We created a categorical variable using the following categories, which are suggested by the DUDIT manual: score of 0 for those who do not do drugs; score of 1 to 5 for some drug use; score of 6 to 24 for harmful use; score of 25 and above indicates drug dependence (on one or more drugs) (Berman *et al.*, 2003). To create a binary variable, the DUDIT manual recommends different cut-off scores for men and women, and does not specify what to do in instances of gender minority people. Recognising the limitations of these recommendations for a study with gender diverse participants, we chose to use the higher cut-off score of 6, which the manual recommends for men, for participants of all genders. We used the binary variable with this cut-off point in the logistic regression model where DUDIT was the outcome. In logistic regression models in which DUDIT was a covariate, we used the continuous DUDIT score. We excluded participants who had missing data for any DUDIT items from DUDIT scoring, however we used multiple imputation to impute missing data in the regression models.

Signs of post-traumatic stress

We created a binary variable for signs of post-traumatic stress: those who said they experienced all three signs were categorised as having signs of post-traumatic stress; those who said they experienced one, two, or no signs were categorised as not having signs of post-traumatic stress. This binary variable was used when post-traumatic stress was included as a co-variate in logistic regression models.

Sampling and enrolment

Decisions around sampling for LGBTI populations are complex, and impacted by a number of factors unique to this population and the specific country-context. Sampling is complicated by the following factors, as described by Meyer and Wilson (Meyer and Wilson, 2009):

- LGBTI populations are not easy to identify. Sexual orientation and gender identity are not fixed constructs, different people have different identities, and this is particularly important in contexts where Western concepts of L, G, B, T and I might not hold the same value for everybody. Further, many LGBTI people may not reveal their gender or sexual orientation, or seek assistance from LGBTI organisations, for fear of discrimination.
- LGBTI populations are hidden. For a sampling method that predicts larger, population-size trends, researchers need to know the overall population size, in our example, the overall number of LGBTI individuals in each country. This of course is impossible to determine, both because of the previous point, and because sexual orientation and gender identity are

not registered in national census data, thus making it impossible to obtain this information. This means that sampling methods that will allow us to make predictions about ALL LGBTI people in a certain context are impossible at this moment.

- Given that many partner organisations do not have definite numbers of their constituency population, it would be impossible for us to even make generalising predictions about any organisations' constituency population, for the same reasons outlined in the previous point (Meyer & Wilson, 2009).

Given these restrictions, we combined two sampling methods: community-based sampling and online-based sampling. We chose to combine these two sampling methods for two reasons:

- Hendricks and Testa (Hendricks and Testa, 2012) show that needs assessments and community-based samples, such as the one we used for our study, often reach especially vulnerable parts of sexual and gender minority populations. This means that the people who participate in community-based surveys, such as ours, are often disadvantaged in more than one way, and so face oppression on more than one level. This means that what we learn from community-based sampled studies can illustrate minority stress by reaching those who are most affected.
- However, Rosser and colleagues (Rosser *et al.*, 2007) have pointed out the limitations of community sampling, which may over-represent targeted problems. In our sample, this means that by sampling people who already access NGOs (arguably because they feel they need support), we might over-estimate the level of mental health problems among sexual and gender minority people more generally. Therefore, we have added online-based sampling to also reach people who do not access NGO services directly.[15]

The following table provides an overview of the number of participants in each country, as well as the number of participants enrolled by each organisation.

Partner organisation	Number of participants
Botswana	618
Bonela	223
LeGaBiBo	168
RIA	221
Other (filled out in Kenya but living in Botswana)	3
Ethiopia	198
Organisation 1	64
Organisation 2	119
Other (online)	15

15 In some countries, the online response rate was poor, or partner organisations chose not to implement online data collection. This was for various reasons, including: poor access to internet, poor access to data collection devices and safety concerns about publicising a public survey link. We describe the country-specific use of the online survey in the Findings section.

Partner organisation	Number of participants
Kenya	976
Ishtar-MSM	183
Jinsiangu	76
Maaygo	181
Minority Women in Action	104
National Gay and Lesbian Human Rights Commission	215
PEMA	216
Other (online)	1
Lesotho	173
People's Matrix Association	173
Malawi	197
Centre for the Development of the People	196
Other (collected in Kenya, participant living in Malawi)	1
South Africa	832
Durban Lesbian and Gay Community and Health Centre	102
Gender Dynamix	166
OUT LGBT Well-Being	202
Triangle Project	256
Other (online)	106
eSwatini	103
Rock of Hope	102
Other (online)	1
Zambia	353
Friends of Rainka	197
TransBantu Zambia	59
The Lotus Identity	90
Other (online)	7

Partner organisation	Number of participants
Zimbabwe	346
Gays and Lesbians of Zimbabwe	178
Sexual Rights Centre	165
Other (online)	3
TOTAL	**3,796**

Data management

Once the partner organisations had finished collecting data, all questionnaires were sent to the GHJRU's offices at the University of Cape Town for data entry. Data were entered by trained research assistants, using the RedCap online survey tool.

Data quality

We undertook a number of steps to ensure that the quality of data was as high as possible. Questionnaires with good data quality are questionnaires that are completely filled out.

For the online survey: The REDCap online survey had checks for data quality in place. For example, skip/logic patterns were programmed into the survey. The online survey also prompted participants to fill out questions that they had accidentally left out.

For the paper survey: We trained fieldworkers to review all completed paper surveys before the participant who had filled it out left. This was so that the fieldworker could identify questions that the participant might have missed, or questions that the participant should not have answered, or questions where the participant had ticked more than one answer. Because the survey was totally anonymous, we could not go back to participants and ask them about questions they had not filled out, or questions that they had filled out incorrectly (where, for example, they had ticked two possible answers and we did not know which one was correct).

Once received at the GHJRU offices, we (the researchers) checked all surveys checked for quality. We trained people to enter the data, who would also identify unusual responses or errors in the data documented on the surveys. When necessary, we held meetings with the data enterer to decide on "data entry rules" for surveys where participants had ticked contradictory answers. We applied these data entry rules to all surveys.

In cases where the participants had not ticked yes to all eligibility questions, or where they had not ticked yes to say that the consented to participating, we did not enter the data from the survey and excluded the participant from the study.

Data cleaning

We used REDCap was used during the data cleaning process to update data in instances of data entry error. Following this, data was exported to Stata. We used Stata to examine patterns of missing and conflicting data. Unusual or unexpected responses that were identified in this process were checked against paper copies and amended as needed.

"Other, specify" responses were reviewed by the research team. We recorded decisions on how to code these write-in responses in the "data entry rules," which were applied to data from all countries. In instances of large numbers of the same "other" responses, we created new coding categories.

Conflicting data

In some instances, questions asked about the same experience twice: first about the experience in participants' lifetime, then in the last 12 months. For example:

301	Has there ever been a period of time when you thought about committing suicide?	In your lifetime?	1 Yes	0 No
		In the last 12 months?	1 Yes	0 No

In some instances, participants entered a conflicting response; for example, saying that they had not thought about suicide in their lifetime, but had thought about it in the last 12 months. In some instances, they left the question about lifetime incomplete, but said they had thought about suicide in the last 12 months. During data cleaning, we made the decision to recode "lifetime" as "yes" in both these instances – so if a participant said they had experienced something in the past 12 months, by default they had also experienced it in their lifetime. This was done for all questions in the above format in the questionnaire.

Data analysis

All data from the online survey and paper survey were managed through REDCap at the University of Cape Town. Data cleaning was completed with REDCap and Stata15. Data analysis was conducted with Stata15.

Describing the data

The main aim of this research was to report prevalence of mental health concerns, healthcare access experiences, experiences of violence, social support and stigma among sexual and gender minority people in our sample.

For this reason, the majority of the report uses descriptive statistics to explain what the research participants reported. These findings should not be considered "representative" of the sexual and gender minority population in each country. However, as an exploratory, cross-sectional study we hope that our findings will reveal priority areas for future research and service delivery, considering the dearth of evidence on sexual and gender minority people's mental health and wellness on the continent.

Measuring associations

This study did not collect information from heterosexual, cisgender people. Because of this, our findings do not report on sexual and gender minority people as compared to their heterosexual, cisgender counterparts. In some instances we drew on peer-reviewed and grey literature in order to discuss our findings as compared to other populations.

In some instances, we report on interesting associations we found within our own sample. For

example, we often examined differences between gender minorities and cisgender participants (where the cisgender participants are sexual minority people) and between black and white participants (where black refers to any participant who did not identify as white). For these comparisons, we started with using chi squared (or Fisher's exact) tests to assess raw associations between categories. The p-values for these tests are reported in tables throughout the Findings section of this report. P-values describe the statistical significance of the association, that is, the chances of whether the association we found is simply due to chance.

Logistic regression

In some instances, we used a tool called logistic regression to examine differences in outcomes within our sample. For example, in countries with large sample sizes, we used logistic regression to asses if there was a difference in depression level ('outcome') between cisgender and gender minority participants ('predictor') while also accounting for other factors.

Logistic regression is used when an outcome has multiple predictors (factors that may cause, prevent or contribute to the outcome). By using logistic regression, we are able to measure association between the outcome and multiple predictors at the same time. Logistic regression produces adjusted odds ratios (AORs), which measures the size of association between different predictors and the outcome.

In our logistic regression models, we included predictors that are known or suspected confounders ("third variables" that influence both a predictor and an outcome) or that are believed to otherwise influence the outcome. This inclusion is called 'adjustment', meaning that the AOR takes into account the effects of other predictors when describing the relationship between any one predictor and outcome.

Examining the AOR gives information about how predictors and outcomes were related in our sample. AORs greater than 1 mean that as the predictor increases, the odds of the outcome increases ("positively associated") and AORs less than 1 mean that as the predictor increases, the odds of the outcome decreases ("negatively associated").

P-values and confidence intervals add understanding about whether these findings are due to chance. A p-value is a measure related to probability. The confidence interval expresses a range in which we are "confident" that the true AOR exists. For this study, we used 95% confidence intervals for AORs—meaning that we are 95% confident that the 'true' association between the predictor and outcome lies within the confidence interval. A p-value of less than 0.05 indicates that there is a 'true' difference in the outcome as a predictor changes (while also accounting for the other predictors in the model).

Example

For example, in South Africa, we found that lifetime experience of sexual violence was associated with suicidal ideation in the last year (see in the South Africa section of this report):

Suicidal ideation (last year)	AOR	95% CI	p
No experience of sexual violence	-	Reference category	
Experienced sexual violence (lifetime)	2.05	1.29 – 3.26	0.003

We can interpret this table as follows:

- Reference category is "no experience of sexual violence" – this means that the predictor is "experienced sexual violence (lifetime)", which will be compared to "no experience of sexual violence" (the reference category)
- AOR of 2.05 – The odds of suicidal ideation in the last year are 2.05 greater in those who experienced lifetime sexual violence, in comparison to those who did not experience sexual violence, holding all other factors constant.
- 95% confidence interval of 1.29-3.26 – We are 95% confident that the AOR is between 1.29 and 3.26.
- p-value of 0.003 – The p-value is less than 0.05 (<0.05) which means we believe that there is a statistically significant difference in the AOR of suicidal ideation in the last year between those who have and have not experienced sexual violence in their lifetimes.

Missing data

Prior to beginning analysis, we examined patterns of missing data. Missing data was sometimes more common for specific variables than others.

Due to the anonymous nature of the questionnaire, we could not follow-up with participants to ask their response when a questionnaire item was incomplete. We recorded these in the database as missing data.

Missing data was more common in the "outcomes" section of the questionnaire, which came after demographics, and among those who completed the questionnaire online. We expect that some participants chose to end the survey early or where otherwise interrupted while completing the online survey. In analysis, we included only questionnaires (paper and online) in which the participant completed at least some items in the "outcomes" section.

Patterns of missing data were different between study countries, study sites, and between questionnaire items. After consideration, we decided to report descriptive statistics using only complete data (please note the sample sizes in the "Findings" of this report by locating the "n" for each table or figure). This is known as "complete case analysis."

For some measures of association, we utilised a method for dealing with missing data called multiple imputation. Multiple imputation is a statistical process with three steps: (1) imputation—statistical software is used to generate duplicate datasets in which the missing data has been replaced by calculated values ("imputations"), (2) analysis—each imputed data set is analysed separately, (3) pooling—the separate analyses are statistically pooled into one measure of association.

Multiple imputation is useful because it can help prevent bias that missing data can cause.

We decided not to apply multiple imputation while reporting on descriptive statistics, although this has been done by others elsewhere. Based on the designed purpose of multiple imputation, imputed data is not meant to truly replace or substitute the answer that would have been true for a participant. Rather, imputed data is used more like a place holder so that a statistical analysis can be stronger. For this reason, we felt that reporting imputed data in descriptive statistics would be misleading.

We used multiple imputation to account for missing data in all regression models. To multiply impute, we used predictive mean matching for continuous variables and categorical scale items (i.e. Likert scales) and logistic regression for binary variables. Predictive mean matching was a method designed for continuous data, but it has been suggested it can also be applied to categorical variables (Morris, White and Royston, 2014). We imputed only variables that were necessary for these analyses, as well as additional variables we felt might be associated with "missingness" of data. All variables relevant to the analyses were imputed, even when the amount of missing data was small.

APPENDIX 2: QUESTIONNAIRE

BOTSWANA—ENGLISH

Instructions for self-administration

You will complete this questionnaire by yourself. A fieldworker will review what the study is about and check that you are eligible and willing to be in the study.

Carefully complete this questionnaire. Check that you have completed every question.

For most questions, choose one response.

106.	Do you own your housing? **PLEASE TICK ONE**	○ 1 Yes, I own it myself ○ 2 No, I rent it ✓ 3 No, I share housing and do not pay for it ○ 77 Not applicable (living on the street)

208.	When seeking healthcare, how often do you think you have been treated disrespectfully by staff for being LGBTI? (this includes doctors, nurses, counsellors, other people working at public, private, or traditional healthcare facilities)	X 1 Never	2 Rarely	3 Sometimes	4 Often
209.	When seeking healthcare, how often do you think have you received poorer service than other people for being LGBTI?	1 Never	X 2 Rarely	3 Sometimes	4 Often

Some items allow you to tick more than one response.

112.	Who do you feel sexually attracted to? **PLEASE TICK ALL THAT APPLY**	☑ 1 To women ☐ 2 To men ☐ 3 To trans women ☑ 4 To trans men ☐ 5 To gender non-conforming people ☑ 6 To intersex people ☐ 7 I do not feel sexual attraction ☐ 8 Other, specify: _____

Sometimes the same question is asked twice—once about the last 12 months and once about your whole lifetime (ever).

Be sure to answer <u>both</u> questions. Remember that if you experienced something in the last 12 months, you have also experienced it in your lifetime.

403.	Has anyone ever **<u>insulted or verbally harassed</u>** you because of being LGBTI?	a. In your life time?	X 1 Yes	0 No
		b. In the last 12 months?	1 Yes	0 No X

If you make a mistake, make the correction clearly. Place one or two lines through the incorrect response and <u>circle the correct response.</u>

214.	Have you postponed or not tried to get needed healthcare <u>when you were sick or injured</u> because you could not afford it?	X 1 Yes	(0 No)

Questionnaire consent statement

The Gender Health and Justice Research Unit at the University of Cape Town, in partnership with COC Netherlands and community based organisations across 12 African countries, (Angola, Botswana, Kenya, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe) is surveying people who are/identify as LGBTI. We aim to develop a better understanding of mental health, wellbeing, and experiences of discrimination, in order to inform advocacy efforts for improved services.

For this survey, we use LGBTI to mean someone who is or identifies as *any* of the following: gay, lesbian, bisexual, pansexual, omnisexual, asexual, men who have sex with men (MSM), women who have sex with women (WSW), transgender, transsexual, transman, transwoman, non-binary trans, queer, genderqueer, gender diverse, gender non-conforming, intersex and body diverse.

Please fill out our quick survey to let us know about your experiences accessing healthcare, about your mental health and well-being, and your experiences with violence.

This survey should take about 20-30 minutes to complete. This survey is **anonymous**, meaning that we will not ask for your name or any other identifying information. What you share in this survey will be kept confidential.

At the end of this survey, we will include a list of resources in your country should you need someone to talk to about your mental health, wellbeing, or experiences of discrimination.

The outcomes of the survey will be used to inform agenda setting by the COC Netherlands and in-country partner organisations to plan advocacy efforts around improving access to services for LGBTI people, particularly mental health services. The findings of this study may be published in academic literature, in which case your answers will not be linked to any identifying information. We can email you a report with the outcomes of this survey. If you wish to receive this report, please contact the organisation that gave you this questionnaire or sent you the link.

Please do not hesitate to contact us if you have any questions. If you have any inquiries regarding the study contact the senior researcher Dr Chelsea Morroni on telephone 3554855, or call any health department on 3632775 or go to the nearest health office in Gaborone. Government enclave. If you have questions about your rights as a research participant, please contact the Faculty of Health Sciences Human Research Ethics Committee, Room E52-54 Groote Schuur Hospital Old Main Building, Observatory 7925, phone +27 21 406 6338 or email shuretta.thomas@uct.ac.za.

If you have any questions concerning this study or consent form beyond those answered by the investigator, including questions about the research, your rights as a research participant; or if you feel that you have been treated unfairly and would like to talk to someone other than a member of the research team, please feel free to contact the Office of Research and Development, University of Botswana, Phone: Ms Dimpho Njadingwe on 355-2900, E-mail:research@mopipi.ub.bw, Telefax: [0267] 395-7573.

To begin, please complete the eligibility questions below.

Thank you for your assistance.

Kind regards

Dr Alex Muller
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University of Cape Town
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alexandra.muller@uct.ac.za

These questions should be completed by a fieldworker:

1. **Are you 18 years of age or older?**
   - ○ 1 Yes
   - ○ 0 No → NOT ELIGIBLE

2. **Do you identify as LGBTI (see above)?**
   - ○ 1 Yes
   - ○ 0 No→ NOT ELIGIBLE

3. **Do you currently live in Angola, Botswana, Kenya, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, or Zimbabwe?**
   - ○ 1 Yes
   - ○ 0 No→ NOT ELIGIBLE

This question should be *ticked by the participant*, but can be asked by a fieldworker:

4. **Do you agree to participate in this survey, based on the information outlined above? (this will be regarded as your informed consent to participate in this survey)**
   - ○ 1 Yes
   - ○ 0 No → NOT ELIGIBLE

5. **Are you completing the questionnaire by yourself?**
   - ○ 1 Yes (self-administered)
   - ○ 0 No (fieldworker administered)

The following question should be completed by the fieldworker.

6. **Has the participant answered yes to questions 1, 2, 3 and 4?**
   - ○ 0 No → Sign and STOP HERE. Explain to participant they are not eligible for the survey. Place this completed form in a secure place.
   - ○ 1 Yes → Sign and continue data collection per guidelines in the Fieldworker Manual.

Fieldworker signature: _____ Date: _____

Section 1a: Background

101.	How old are you?	**PLEASE WRITE YOUR AGE:** _____
102.	In which country do you currently live? **PLEASE TICK ONE**	○ 1 Angola ○ 2 Botswana ○ 3 Kenya ○ 4 Lesotho ○ 5 Malawi ○ 6 Mozambique ○ 7 Namibia ○ 8 South Africa ○ 9 Swaziland ○ 10 Tanzania ○ 11 Zambia ○ 12 Zimbabwe
103.	How did you hear about this study?	○ 2 BONELA ○ 3 LeGaBiBo ○ 4 Rainbow Identity Association (RIA)
104.	How do you identify your race?	○ 1 Black ○ 2 White ○ 3 Indian ○ 4 Coloured ○ 5 Other specify: _____
105.	In what type of housing do you currently live?	○ 1 House ○ 2 Apartment / flat ○ 3 Mokhukhu / shanty / shack ○ 4 Hotel ○ 5 Mobile house ○ 6 On the street ○ 8 Hut

106.	Do you own your housing? **PLEASE TICK ONE**	○ 1 Yes, I own it myself ○ 2 No, I rent it ○ 3 No, I share housing and do not pay for it ○ 77 Not applicable (living on the street)
107.	What type of area do you live in?	○ 1 Urban ○ 2 Semi-urban/Peri-urban ○ 3 Rural
108.	On average, do you have enough money to cover your basic needs?	○ 1 Yes ○ 0 No
109.	Do you have a job for which you are paid?	○ 1 Yes, I have formal employment (I have an employment contract) ○ 2 Yes, I have informal employment (I am paid for work but do not have an employment contract) ○ 0 No, I do not have any work for which I am paid
110.	Which religion, if any, most closely aligns to your beliefs?	○ 1 African tradition / Ancestral worship ○ 2 Islam ○ 3 Christianity ○ 4 Rastafarianism ○ 5 Judaism ○ 6 I am not religious ○ 7 Other, specify: _____
111.	What is the highest level of education that you have completed?	○ 1 No formal education ○ 2 Primary education ○ 3 Secondary school (JCE, BGCSE, IGSCE) ○ 4 Post-secondary school/University diploma or degree (tertiary)

112.	Who do you feel sexually attracted to? **PLEASE TICK ALL THAT APPLY**	☐ 1 To women ☐ 2 To men ☐ 3 To trans women ☐ 4 To trans men ☐ 5 To gender non-conforming people ☐ 6 To intersex people ☐ 7 I do not feel sexual attraction ☐ 8 Other, specify: _____
113.	Who do you feel emotionally attracted to? **PLEASE TICK ALL THAT APPLY**	☐ 1 To women ☐ 2 To men ☐ 3 To trans women ☐ 4 To trans men ☐ 5 To gender non-conforming people ☐ 6 To intersex people ☐ 7 I do not feel emotional attraction ☐ 8 Other, specify: _____
114.	In the last year, whom have you had sexual experiences with? **PLEASE TICK ALL THAT APPLY**	☐ 1 With women ☐ 2 With men ☐ 3 With trans women ☐ 4 With trans men ☐ 5 With gender non-conforming people ☐ 6 With intersex people ☐ 7 I have not had sexual experiences in the last year ☐ 8 Other, specify: _____
115.	In your lifetime, whom have you had sexual experiences with? **PLEASE TICK ALL THAT APPLY**	☐ 1 With women ☐ 2 With men ☐ 3 With trans women ☐ 4 With trans men ☐ 5 With gender non-conforming people ☐ 6 With intersex people ☐ 7 I have never had sexual experiences ☐ 8 Other, specify: _____

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116.	In terms of your sexual orientation, how do you identify? **PLEASE TICK ONE**	○ 1 Lesbian ○ 2 Bisexual ○ 3 Gay ○ 4 Heterosexual ○ 5 Asexual ○ 6 Other; please specify _____
117.	In terms of your gender identity, how do you identify? **PLEASE TICK ONE**	○ 1 Woman ○ 2 Man ○ 3 Trans woman ○ 4 Trans man ○ 5 Gender non-conforming ○ 6 Other; please specify:_____
118.	How was your sex classified at birth? **PLEASE TICK ONE**	○ 1 Female ○ 2 Male ○ 3 Intersex (persons born with sex organs/genitals that do not appear typically female or typically male)
119.	What is the legal sex/gender currently recorded in your identity document? **PLEASE TICK ONE**	○ 1 Female ○ 2 Male ○ 3 Intersex ○ 4 Unspecified ○ 5 Other; please specify:_____ ○ 77 I do not have an identity document

Section 1b: Gender expression

We would now like to know more about your gender expression. Indicate on a scale from 1 (not at all) to 5 (extremely) how masculine and feminine you think you are. We understand that being masculine or feminine is not natural or something you are born with, but we would like to know about how much you conform to society's expectations of what is masculine or feminine.

Place an X in one box that best describes your answer to each question.

120.	In general, how feminine do you think you are?	1 Not at all	2 A little	3 Somewhat	4 Very much	5 Extremely
121.	In general, how feminine do you behave in front of others?	1 Not at all	2 A little	3 Somewhat	4 Very much	5 Extremely
122.	In general, how feminine do you appear to others?	1 Not at all	2 A little	3 Somewhat	4 Very much	5 Extremely
123.	In general, how masculine do you think you are?	1 Not at all	2 A little	3 Somewhat	4 Very much	5 Extremely
124.	In general, how masculine do you behave in front of others?	1 Not at all	2 A little	3 Somewhat	4 Very much	5 Extremely
125.	In general, how masculine do you appear to others?	1 Not at all	2 A little	3 Somewhat	4 Very much	5 Extremely

The following questions are about your use of some different gender-affirming practices. We understand that not everyone does these practices; however, we appreciate any information you are able to share with us, whether you do these practices or not.

139.	Do you use hormones for gender affirming care ("transitioning")?	1 Yes, from a local private healthcare provider	2 Yes, from a local public healthcare provider	3 Yes, from another source	0 No
140.	Do you use any method of binding (binders, bandages, etc.)?			1 Yes	0 No
141.	Do you tuck (or use any method of hiding your penis)?			1 Yes	0 No

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Section 1c: Sexuality and self

*Complete this section if you do not identify as heterosexual or asexual***. If you do identify as heterosexual or asexual, go to the next page.**

Place an X in one box that best describes your answer to each question.

Please answer these questions based on YOUR OWN feelings about yourself.

126.	Sometimes I dislike myself for being a person who has (or wants) sex with people of the same sex.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
127.	I wish I was only sexually attracted to the opposite sex.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
128.	I am ashamed of myself for being sexually attracted to people of the same sex.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
129.	I feel that being attracted to people of the same sex is a personal weakness of mine.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
130.	If someone offered me the chance to be completely heterosexual, I would accept the offer.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
131.	Whenever I think about having sex with someone of the same sex, I feel bad about myself.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly

Section 1d: Gender identity and self

Complete this section if you identify as transgender, genderqueer, and/or gender non-conforming. **If you do not identify as transgender, genderqueer, and/or gender non-conforming, go to the next page.**

Place an X in one box that best describes your answer to each question.

Please answer these questions based on YOUR OWN feelings about yourself.

132.	Sometimes I dislike myself for being transgender, genderqueer, and/or gender non-conforming.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
133.	Sometimes I wish I wasn't transgender, genderqueer, and/or gender non-conforming.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
134.	I think about the fact that I am transgender, genderqueer, and/or gender non-conforming when I interact with people.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
135.	I feel that being transgender, genderqueer, and/or gender non-conforming is a personal weakness of mine.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
136.	If someone offered me the chance to be cisgender, I would accept the offer.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly

The following questions are about your access to gender-affirming treatments. We understand that not everyone chooses to use these treatments; however, we appreciate any information you are able to share with us about access, whether you use these treatments or not.

137.	Can you get hormones for transitioning from a local healthcare provider, if you need them?	1 Yes	0 No
138.	Can you get gender affirming surgery from a local healthcare provider, if you need it?	1 Yes	0 No

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Section 1e: Being intersex and self

Complete this section if you are intersex. **If you are not intersex, go to the next page.**

Place an X in one box that best describes your answer to each question.

Please answer these questions based on YOUR OWN feelings about yourself.

142.	Sometimes I dislike myself for being intersex.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
143.	Sometimes I wish I wasn't intersex.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
144.	I think about the fact that I am intersex when I interact with people.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
145.	I feel that being intersex is a personal weakness of mine.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
146.	If someone offered me the chance to not have been born intersex, I would accept the offer.	1 Disagree strongly	2 Disagree	3 Agree	4 Agree strongly
147.	How do you rate your healthcare providers' knowledge and skills on intersex healthcare?	4 Very good	3 Good	2 Poor	1 Very poor
148.	Has healthcare staff ever put your body on display for others to look at?			1 Yes	0 No

Section 2a: Health service use

The following questions will ask about your health service use at community-based organisations/non-governmental organisations, public services, private services, and indigenous or traditional healers or providers.

201.	Do you have private medical aid or health insurance?	1 Yes	0 No	
202.	For which health services have you accessed **community-based organisation or non-governmental organisation healthcare** in the last 12 months? **TICK ALL THAT APPLY** *(If you do not use community-based organisation or non-governmental organisation healthcare, tick "None" at the bottom)*	☐ 1 Regular check-ups when I am feeling well ☐ 2 Check-ups when I am feeling sick ☐ 3 Emergency care ☐ 4 Care after a sexual assault ☐ 5 Care after a physical assault ☐ 6 Testing for HIV ☐ 7 HIV care and treatment ☐ 8 Testing, care, or treatment for other sexually transmitted infections (STIs) (not HIV) ☐ 15 Counselling or psychosocial support ☐ 16 Care for mental health conditions ☐ 10 Barrier methods (condoms, dental dams or finger condoms) ☐ 11 Contraception (injection, pill, IUD/loop, implant) ☐ 12 Gender affirming treatment (hormones, surgery) ☐ 13 Other, specify: _____ ☐ 14 None		
203.	For which health services have you accessed **public health care (clinic/hospital)** in the last 12 months? **TICK ALL THAT APPLY** *(If you do not use public healthcare, tick "None" at the bottom)*	☐ 1 Regular check-ups when I am feeling well ☐ 2 Check-ups when I am feeling sick ☐ 3 Emergency care ☐ 4 Care after a sexual assault ☐ 5 Care after a physical assault ☐ 6 Testing for HIV ☐ 7 HIV care and treatment ☐ 8 Testing, care, or treatment for other sexually transmitted infections (STIs) (not HIV) ☐ 15 Counselling or psychosocial support ☐ 16 Care for mental health conditions ☐ 10 Barrier methods (condoms, dental dams or finger condoms) ☐ 11 Contraception (injection, pill, IUD/loop, implant) ☐ 12 Gender affirming treatment (hormones, surgery) ☐ 13 Other, specify: _____ ☐ 14 None		

204.	For which health services have you accessed **private health care (clinic/hospital)** in the last 12 months? **TICK ALL THAT APPLY** *(If you do not use private healthcare, tick "None" at the bottom)*	☐ 1 Regular check-ups when I am feeling well ☐ 2 Check-ups when I am feeling sick ☐ 3 Emergency care ☐ 4 Care after a sexual assault ☐ 5 Care after a physical assault ☐ 6 Testing for HIV ☐ 7 HIV care and treatment ☐ 8 Testing, care, or treatment for other sexually transmitted infections (STIs) (not HIV) ☐ 15 Counselling or psychosocial support ☐ 16 Care for mental health conditions ☐ 10 Barrier methods (condoms, dental dams or finger condoms) ☐ 11 Contraception (injection, pill, IUD/loop, implant) ☐ 12 Gender affirming treatment (hormones, surgery) ☐ 13 Other, specify: _____ ☐ 14 None
205.	For which health services have you accessed **indigenous or traditional healthcare or faith healing** in the last 12 months? **TICK ALL THAT APPLY** *(If you do not use indigenous or traditional healthcare or faith healing, tick "None" at the bottom)*	☐ 1 Regular check-ups when I am feeling well ☐ 2 Check-ups when I am feeling sick ☐ 3 Emergency care ☐ 4 Care after a sexual assault ☐ 5 Care after a physical assault ☐ 6 Testing for HIV ☐ 7 HIV care and treatment ☐ 8 Testing, care, or treatment for other sexually transmitted infections (STIs) (not HIV) ☐ 15 Counselling or psychosocial support ☐ 16 Care for mental health conditions ☐ 10 Barrier methods (condoms, dental dams or finger condoms) ☐ 11 Contraception (injection, pill, IUD/loop, implant) ☐ 12 Gender affirming treatment (hormones, surgery) ☐ 13 Other, specify: _____ ☐ 14 None

Section 2b: Health service barriers

Place an X in one box that best describes your answer to each question.

206.	Have you ever disclosed being LGBTI to a healthcare staff member? (this includes doctors, nurses, counsellors, other people working at public, private, or traditional healthcare facilities)			1 Yes	0 No
207.	Has a healthcare staff member ever made assumptions about your sexual orientation and/or gender identity? (for example, assumed you are LGBTI based on how you dress)			1 Yes	0 No
208.	When seeking healthcare, how often do you think you have been treated disrespectfully by staff for being LGBTI? (this includes doctors, nurses, counsellors, other people working at public, private, or traditional healthcare facilities)	1 Never	2 Rarely	3 Sometimes	4 Often
209.	When seeking healthcare, how often do you think have you received poorer service than other people for being LGBTI?	1 Never	2 Rarely	3 Sometimes	4 Often
210.	How often have you been called names or insulted by healthcare staff for being LGBTI? (this includes doctors, nurses, counsellors, other people working at public, private, or traditional healthcare facilities)	1 Never	2 Rarely	3 Sometimes	4 Often
211.	How often do you think healthcare staff has denied you a service because of being LGBTI? (this includes doctors, nurses, counsellors, other people working at public, private, or traditional healthcare facilities)	1 Never	2 Rarely	3 Sometimes	4 Often
212.	How often has healthcare staff threatened to call the police because you were LGBTI? (this includes doctors, nurses, counsellors, other people working at public, private, or traditional healthcare facilities)	1 Never	2 Rarely	3 Sometimes	4 Often
213.	Have you ever not told a healthcare staff member about a health need you have which is related to the fact that you are LGBTI? (for example, anal warts, sexual health advice for lesbian couples, gender-affirming treatment)			1 Yes	0 No

Section 2c: Impact of previous experiences on health-seeking behaviour

Place an X in one box that best describes your answer to each question.

214.	Have you postponed or not tried to get needed healthcare when you were sick or injured because you could not afford it?	1 Yes	0 No
215.	Have you postponed or not tried to get HIV testing because you could not afford it?	1 Yes	0 No
216.	Have you postponed or not tried to get STI testing or STI/HIV treatment because you could not afford it?	1 Yes	0 No
217.	Have you postponed or not tried to get needed healthcare when you were sick or injured because of disrespect or discrimination based on being LGBTI from doctors or other healthcare providers?	1 Yes	0 No
218.	Have you postponed or not tried to get HIV testing because of disrespect or discrimination based on being LGBTI from doctors or other healthcare providers?	1 Yes	0 No
219.	Have you postponed or not tried to get STI testing or STI/HIV treatment because of disrespect or discrimination based on being LGBTI from doctors or other healthcare providers?	1 Yes	0 No
220.	Have you ever hidden, or tried to hide, that you are LGBTI from a healthcare provider for fear of discrimination?	1 Yes	0 No
221.	Are you aware of a healthcare professional ever sharing that you are LGBTI with others without your permission?	1 Yes	0 No

Section 3: Tobacco

3001.	Do you currently smoke tobacco every day, some days, or not at all?	2 Every day **(Go to 3004)**	1 Some days **(Go to 3002)**	0 Not at all (Go **to 3003)**
3002.	Have you smoked tobacco every day in the past?		1 Yes **(Go to 3004)**	0 No **(Go to 3004)**
3003.	In the past, have you ever smoked tobacco?	2 Yes, every day in the past **(Go to next section)**	1 Yes, some days in the past **(Go to next section)**	0 No **(Go to next section)**
3004.	On average, how many cigarettes do you currently smoke each day when you smoke?	Write the number per day: _____ ***Note: 1 pack = 20 cigarettes***		

Section 3a: Alcohol

Because alcohol use can affect your health and can interfere with certain medications and treatments, it is important that we ask some questions about your use of alcohol. Your answers will remain confidential so please be honest.

Place an X in one box that best describes your answer to each question.

301.	How often do you have a drink containing alcohol?	0 Never (**Go to next section**)	1 Monthly or less	(2) 2-4 times a month	(3) 2-3 times a week	(4) 4 or more times a week
302.	How many drinks containing alcohol do you have on a typical day when you are drinking?	(0) 1 or 2	(1) 3 or 4	(2) 5 or 6	(3) 7, 8 or 9	(4) 10 or more
303.	How often do you have six or more drinks on one occasion?	0 Never	1 Less than monthly	2 Monthly	3 Weekly	4 Daily or almost daily
304.	How often during the last year have you found that you were not able to stop drinking once you had started?	0 Never	1 Less than monthly	2 Monthly	3 Weekly	4 Daily or almost daily
305.	How often during the last year have you failed to do what was normally expected of you because of drinking?	0 Never	1 Less than monthly	2 Monthly	3 Weekly	4 Daily or almost daily
306.	How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	0 Never	1 Less than monthly	2 Monthly	3 Weekly	4 Daily or almost daily
307.	How often during the last year have you had a feeling of guilt or remorse after drinking?	0 Never	1 Less than monthly	2 Monthly	3 Weekly	4 Daily or almost daily
308.	How often during the last year have you been unable to remember what happened the night before because of your drinking?	0 Never	1 Less than monthly	2 Monthly	3 Weekly	4 Daily or almost daily
309.	Have you or someone else been injured because of your drinking?	0 No		2 Yes, but not in the last year		4 Yes, during the last year
310.	Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	0 No		2 Yes, but not in the last year		4 Yes, during the last year

Section 3b: Drugs

Here are a few questions about drugs. Please answer as correctly and honestly as possible.

By drugs, we mean any of the following:

Cannabis: Marijuana, Hash, Hash oil, Dagga

Amphetamines: Methamphetamine, Phenmetraline, Khat, Betel nut, Ritaline, (Methylphenidate)

Cocaine: Crack, Freebase, Coca leaves

Opiates: Smoked heroin, Heroin, Opium

Hallucinogens: Ecstasy, LSD (Lisergic acid), Mescaline, Peyote, PCP (angel dust), (Phencyclidine), Psilocybin, DMT (Dimethyltryptamine)

Solvents/inhalants: Thinner, Trichlorethylene, Gasoline/petrol, Gas, Solution, Glue

GHB and others: GHB, Anabolic steroids, Laughing gas (Halothane), Amyl nitrate (Poppers), Anticholinergic compounds

Tik or rocks

Place an X in one box that best describes your answer to each question.

311.	How often do you use drugs other than alcohol? (see list of drugs above)	0 Never (**Go to next section)**	1 Once a month or less often	(2) 2-4 times a month	(3) 2-3 times a week	(4) 4 times a week or more often
312.	Do you use more than one type of drug on the same occasion?	0 Never	1 Once a month or less often	(2) 2-4 times a month	(3) 2-3 times a week	(4) 4 times a week or more often
313.	How many times do you take drugs on a typical day when you use drugs?	(0) 0	(1) 1-2	(2) 3-4	(3) 5-6	(4) 7 or more
314.	How often are you influenced heavily by drugs?	0 Never	1 Less often than once a month	2 Every month	3 Every week	4 Daily or almost every day
315.	Over the past year, have you felt that your longing for drugs was so strong that you could not resist it?	0 Never	1 Less often than once a month	2 Every month	3 Every week	4 Daily or almost every day
316.	Has it happened, over the past year that you have not been able to stop taking drugs once you started?	0 Never	1 Less often than once a month	2 Every month	3 Every week	4 Daily or almost every day
317.	How often over the past year have you taken drugs and then neglected to do something you should have done?	0 Never	1 Less often than once a month	2 Every month	3 Every week	4 Daily or almost every day
318.	How often over the past year have you needed to take a drug the morning after heavy drug use the day before?	0 Never	1 Less often than once a month	2 Every month	3 Every week	4 Daily or almost every day
319.	How often over the past year have you had guilt feelings or a bad conscience because you used drugs?	0 Never	1 Less often than once a month	2 Every month	3 Every week	4 Daily or almost every day
320.	Have you or anyone else been hurt (mentally or physically) because you used drugs?	0 No		2 Yes, but not over the past year		4 Yes, over the past year
321.	Has a relative or a friend, a doctor, or a nurse, or anyone else, been worried about your drug use?	0 No		2 Yes, but not over the past year		4 Yes, over the past year

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Section 3c

Over the last 2 weeks, how often have you been bothered by the following problems?

322.	Feeling nervous, anxious, or on edge	0 Not at all (0-1 days)	1 Several days (2-6 days)	2 Over half the days (7-10 days)	3 Nearly every day (11-14 days)
323.	Not being able to stop or control worrying	0 Not at all (0-1 days)	1 Several days (2-6 days)	2 Over half the days (7-10 days)	3 Nearly every day (11-14 days)
324.	Worrying too much about different things	0 Not at all (0-1 days)	1 Several days (2-6 days)	2 Over half the days (7-10 days)	3 Nearly every day (11-14 days)
325.	Trouble relaxing	0 Not at all (0-1 days)	1 Several days (2-6 days)	2 Over half the days (7-10 days)	3 Nearly every day (11-14 days)
326.	Being so restless that it is hard to sit still	0 Not at all (0-1 days)	1 Several days (2-6 days)	2 Over half the days (7-10 days)	3 Nearly every day (11-14 days)
327.	Becoming easily annoyed or irritable	0 Not at all (0-1 days)	1 Several days (2-6 days)	2 Over half the days (7-10 days)	3 Nearly every day (11-14 days)
328.	Feeling afraid as if something awful might happen	0 Not at all (0-1 days)	1 Several days (2-6 days)	2 Over half the days (7-10 days)	3 Nearly every day (11-14 days)
329.	If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people?	0 Not difficult at all	1 Somewhat difficult	2 Very difficult	3 Extremely difficult
330.	Has a healthcare provider ever told you that you have clinical anxiety?			1 Yes	0 No **(Go to next section)**
330a.	If yes, are you current being treated for clinical anxiety (e.g. medication, therapy)?			1 Yes	0 No

Section 3d

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way **during the past week**.

331.	I was bothered by things that usually don't bother me.	0 Rarely or none of the time (less than 1 day)	1 Some or a little of the time (1-2 days)	2 Occasionally or a moderate amount of time (3-4 days)	3 All of the time (5-7 days)
332.	I had trouble keeping my mind on what I was doing.	0 Rarely or none of the time (less than 1 day)	1 Some or a little of the time (1-2 days)	2 Occasionally or a moderate amount of time (3-4 days)	3 All of the time (5-7 days)
333.	I felt depressed.	0 Rarely or none of the time (less than 1 day)	1 Some or a little of the time (1-2 days)	2 Occasionally or a moderate amount of time (3-4 days)	3 All of the time (5-7 days)
334.	I felt that everything I did was an effort.	0 Rarely or none of the time (less than 1 day)	1 Some or a little of the time (1-2 days)	2 Occasionally or a moderate amount of time (3-4 days)	3 All of the time (5-7 days)
335.	I felt hopeful about the future.	3 Rarely or none of the time (less than 1 day)	2 Some or a little of the time (1-2 days)	1 Occasionally or a moderate amount of time (3-4 days)	0 All of the time (5-7 days)
336.	I felt fearful.	0 Rarely or none of the time (less than 1 day)	1 Some or a little of the time (1-2 days)	2 Occasionally or a moderate amount of time (3-4 days)	3 All of the time (5-7 days)
337.	My sleep was restless.	0 Rarely or none of the time (less than 1 day)	1 Some or a little of the time (1-2 days)	2 Occasionally or a moderate amount of time (3-4 days)	3 All of the time (5-7 days)
338.	I was happy.	3 Rarely or none of the time (less than 1 day)	2 Some or a little of the time (1-2 days)	1 Occasionally or a moderate amount of time (3-4 days)	0 All of the time (5-7 days)
339.	I felt lonely.	0 Rarely or none of the time (less than 1 day)	1 Some or a little of the time (1-2 days)	2 Occasionally or a moderate amount of time (3-4 days)	3 All of the time (5-7 days)
340.	I could not "get going."	0 Rarely or none of the time (less than 1 day)	1 Some or a little of the time (1-2 days)	2 Occasionally or a moderate amount of time (3-4 days)	3 All of the time (5-7 days)
341.	Has a healthcare provider ever told you that you have clinical depression?			1 Yes	0 No **(Go to 342)**
341a.	If yes, are you current being treated for clinical depression (e.g. medication, therapy)?			1 Yes	0 No

Section 3e

342.	Has there ever been a period of time when you thought about committing suicide?	a. In your lifetime?	1 Yes	0 No
		b. In the last 12 months?	1 Yes	0 No
343.	Did you ever try to end your own life, whether or not you had thought about it ahead?	a. In your lifetime?	1 Yes	0 No
		b. In the last 12 months?	1 Yes	0 No

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Section 3f: Social support

347.	Who do you go to when you need someone to talk to about problems in your life? **TICK ALL THAT APPLY**	☐ 1 Current partner(s) (at least one) ☐ 2 Family (a least one member) ☐ 3 Friends (at least one) ☐ 4 People I live with (at least one) ☐ 5 Healthcare providers (at least one) ☐ 6 People I work with (at least one) ☐ 7 People living nearby me (at least one) ☐ 8 LGBTI organisations ☐ 9 No one
348.	Who in your life knows that you are LGBTI? **TICK ALL THAT APPLY**	☐ 1 Current partner(s) (at least one) ☐ 2 Family (a least one member) ☐ 3 Friends (at least one) ☐ 4 People I live with (at least one) ☐ 5 Healthcare providers (at least one) ☐ 6 People I work with (at least one) ☐ 7 People living nearby me (at least one) ☐ 8 LGBTI organisations ☐ 9 No one
349.	Of those, who have **you** told yourself about being LGBTI? **TICK ALL THAT APPLY**	☐ 1 Current partner(s) (at least one) ☐ 2 Family (a least one member) ☐ 3 Friends (at least one) ☐ 4 People I live with (at least one) ☐ 5 Healthcare providers (at least one) ☐ 6 People I work with (at least one) ☐ 7 People living nearby me (at least one) ☐ 8 LGBTI organisations ☐ 9 No one

Section 4 Experience of violence

This is the last section of the questionnaire. **The following questions ask about your experiences with violence.**

401.	Are you aware of anyone ever revealing that you are LGBTI to others without your permission?			1 Yes	0 No
402.	Has anyone ever threatened to reveal that you are LGBTI to others without your permission?			1 Yes	0 No
403.	Has anyone ever **insulted or verbally harassed** you because of being LGBTI?		a. In your life time?	1 Yes	0 No
			b. In the last 12 months?	1 Yes	0 No
404.	Has an **intimate partner** (past or current) ever threatened to reveal that you are LGBTI to others without your permission?			1 Yes	0 No
405.	Has an intimate partner (past or current) ever made you feel worthless because of being LGBTI?			1 Yes	0 No
406.	Has an intimate partner (past or current) ever made you feel ashamed because of being LGBTI?			1 Yes	0 No
407.	Have you ever been coerced, pressured or forced into marriage?			1 Yes	0 No
408.	Have you ever been **sexually assaulted**	By an intimate partner of the same sex as you?	a. In your life time?	1 Yes	0 No
			b. In the last 12 months?	1 Yes	0 No
		By an intimate partner of a different sex than you?	c. In your life time?	1 Yes	0 No
			d. In the last 12 months?	1 Yes	0 No
		By someone you know (not an intimate partner but a neighbour, friend, family member, etc.)	e. In your life time?	1 Yes	0 No
			f. In the last 12 months?	1 Yes	0 No
		By a stranger	g. In your life time?	1 Yes	0 No
			h. In the last 12 months?	1 Yes	0 No
		By someone you live with? (an intimate partner or other person)	i. In your life time?	1 Yes	0 No
			j. In the last 12 months?	1 Yes	0 No
409.	Have you ever been **physically assaulted**	By an intimate partner of the same sex as you?	a. In your life time?	1 Yes	0 No
			b. In the last 12 months?	1 Yes	0 No
		By an intimate partner of a different sex than you?	c. In your life time?	1 Yes	0 No
			d. In the last 12 months?	1 Yes	0 No
		By someone you know (not an intimate partner but a neighbour, friend, family member, etc.)	e. In your life time?	1 Yes	0 No
			f. In the last 12 months?	1 Yes	0 No
		By a stranger	g. In your life time?	1 Yes	0 No
			h. In the last 12 months?	1 Yes	0 No
		By someone you live with? (an intimate partner or other person)	i. In your life time?	1 Yes	0 No
			j. In the last 12 months?	1 Yes	0 No

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If you answered yes to sexual or physical assault <u>in your life time</u>, please complete these questions:

	We know that our sexual orientation and gender identity is not always easily separated. However, please choose the best response to these last questions.		
413.	Do you think any of these incidents (sexual or physical assault) were motivated by your sexual orientation?	1 Yes	0 No
414.	Do you think any of these incidents (sexual or physical assault) were motivated by your gender identity?	1 Yes	0 No
415.	Do you think any of these incidents (sexual or physical assault) were motivated by your body being intersex or not typically female/typically male?	1 Yes	0 No
416.	Did any of these incidents result in flashbacks, nightmares, or reliving the event?	1 Yes	0 No
417.	Have you avoided situations or people who remind you of the incident(s)?	1 Yes	0 No
418.	Following the incident(s), have you felt jumpy, irritable, or restless?	1 Yes	0 No

If you answered yes to sexual or physical assault <u>in the last 12 months</u>, please complete these questions:

410.	If you have experienced physical or sexual assault in the last 12 months, have you **sought medical care** for it?				1 Yes	0 No
411.	If you have experienced physical or sexual assault in the last 12 months, have you **reported it to the police**?				1 Yes	0 No
412.	When seeking help for physical or sexual assault, how often do you think you have been treated with less courtesy than other people by police or healthcare staff for being LGBTI?	1 Never	2 Rarely	3 Sometimes	4 Often	5 I have not sought help for physical or sexual assault

Thank you for your time in completing this survey! Please take a moment to check you have completed all of the questions.

<u>Return this survey to the person who gave it to you when you are finished.</u>

Thank you for telling us about your experiences of mental health, drug/alcohol use, and violence. If you would like to talk to someone about these things, please contact one of the below organisations:

Organisation	Contact details
Botswana family welfare association (BOFWA)	**Tel:3900489** **Fax:3901222** **Chikwamba road, plot 23769 Phase 4, Gaborone** **Services: drugs/alcohol and violence counselling**
Bosanet Substance Abuse Support Network	**Tel:3959119** **Fax: 3951333** **Okavango Close Road, plot # 5346, Extension 11, Gaborone** **Services: drugs/alochol and violence counselling**
Bonela	**LGBTI organisation** **Tel:3932516** **Fax:3932516** **Rapple Street, Paphane road, plot #37208, Block 8, Gaborone**

LeGaBiBo	**LGBTI organisation** **Tel: 267 393 2516** **Plot 34296, Setsau Street, Block 8** **Gaborone**
Rainbow Identity Association	**LGBTI organisation** **Tel: 390 5493** **Plot 22542 Phase 4** **Gaborone West**
Botswana family welfare association (BOFWA)	**Tel:3900489** **Fax:3901222** **Chikwamba road, plot 23769 Phase 4, Gaborone** **Services: drugs/alcohol and violence counselling**

For research staff use only:

I, the **fieldworker,** have reviewed this questionnaire for completeness and accuracy.

Fieldworker signature: _____ Date: _____

I, the **research coordinator (or designee)**, have reviewed this questionnaire for completeness and accuracy.

Coordinator/designee signature: _____ Date: _____

I, the **GHJRU research staff member**, have reviewed this questionnaire for completeness and accuracy.

GHJRU signature: _____ Date: _____

I, the **data enterer**, have completed data entry of this questionnaire and assigned a unique identifier.

Data enterer signature: _____ Date: _____