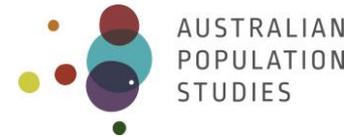

Toward making sexual and gender diverse populations count in Australia



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Abstract

Background

Comprehensive data on gender and sexual identity is critical for the planning and delivery of health, education, and social support services. This paper examines ways in which sexual and gender diverse populations are being counted in research, with a view to informing discussions about how to represent these populations in future research.

Aims

To examine approaches used for the collection of data from sexual and gender diverse populations in Australia.

Data and methods

We reviewed nine examples of large national surveys conducted in Australia over the past ten years and compared the approaches used for collecting data on gender and sexual identity.

Results

A diversity of approaches and a range of limitations were identified in how these diverse populations are counted. The proportions of survey respondents across sex, gender and sexual identity categories, and the types of categories, were also found to vary across studies.

Conclusions

There is currently no consistent approach for collecting data involving sexual and gender diverse populations in Australia despite the need for large-scale surveys that reflect sexual and gender diversity. This paper identifies conceptual and methodological questions for consideration when planning how to capture diversity related to gender and sexual identity.

Key words

Survey methods; sex; gender; sexual identity; Australia

1. Introduction

“There’s a saying: ‘You don’t count in policy circles until someone counts you.’” Dr Gary Gates

Comprehensive data of sexual and gender diverse populations in Australia is crucial for service planning and policymaking. These populations, such as people who identify as lesbian, gay, bisexual, or trans, experience many disproportionate health and social issues (Lyons et al. 2019; National LGBTI Health Alliance 2020). Owing to complex histories of stigma and discrimination (Anderson and Holland 2015; Mizock and Mueser 2014), targeted and tailored provision of support is often required. Effectively providing this depends on having comprehensive demographic and other data, such as age, geographic, and socioeconomic distributions.

The Australian Census of Population and Housing (hereafter ‘the Census’) is Australia’s largest statistical collection, which is used for numerous purposes, such as public funding and decision-making for services and infrastructure (ABS 2017). However, the Census is currently limited in the extent to which it collects data on the diversity of gender and sexual identity. The Australian Bureau of Statistics (ABS) has reported it would not be including sexual and gender identity questions in the next census, due for 2021 (ABS 2019). Until questions are included in the census, researchers and policy makers must rely on what is available from other studies to ensure that sexual and gender diverse populations are counted and visible. An essential consideration is whether surveys ask about sexual and gender diversity in consistent and thorough ways, and in particular whether questions and response options provide capacity to build a detailed demographic profile of sexual and gender diverse populations in Australia.

It is important to first note that sex and gender are typically conceptualised in different ways (e.g. Connell 2002; Hammarström and Annandale 2012; West and Zimmerman 1987). For example, the ABS released a ‘standard for sex and gender variables’ (ABS 2016), which aligns with Australian Government guidelines from the Attorney-General’s Department (Australian Government 2013) and outlines sex and gender as distinct concepts. In this standard, ‘sex’ refers to biological characteristics. It is usually assigned at birth as male or female, or may be recorded differently where a person has a variation in sex characteristics. In the standard ‘gender’ refers to how a person identifies or describes themselves, which may not always align with their sex assigned at birth. For example, someone who is transgender may have been assigned male on their birth certificate but describe themselves as, and are, a woman. Importantly, people might also describe themselves in different ways that are neither exclusively male nor female, such as non-binary (Liszewski et al. 2018). The UK Office for National Statistics (ONS) recently released a similar set of guidelines distinguishing sex and gender (ONS 2019). However, the ONS add further provision for ‘sex’ being self-defined by survey respondents, thus highlighting the importance of providing clarity in how terms are used in a survey and what respondents are being asked of them.

‘Sexual identity’ typically refers to how a person experiences or expresses themselves sexually or romantically (Durso and Gates 2013). Numerous identity labels are used such as lesbian, gay, bisexual, pansexual, queer, and heterosexual or straight (Leonard et al. 2012). It is worth noting that the term ‘sexual orientation’ is often used broadly to refer to three main components: sexual identity; sexual behaviour; and sexual attraction (Katz-Wise 2015). For example, a person may be attracted to someone

of the same sex and/or engage in same-sex behaviour, but might identify as heterosexual rather than lesbian or gay. Depending on the focus of a survey, researchers may be interested in one or more components of sexual orientation. However, sexual identity tends to be the main focus in most national surveys in Australia, and we therefore focus on sexual identity in this article.

It needs to be noted that conceptual and empirical work on understanding sex, gender, and sexual identity is considerable and complex, and it is beyond the scope of this paper to cover the many nuances and perspectives. For example, there are arguments that gender and sexual identity are not necessarily inseparable (e.g. Butler 2006). However, key points for the purposes of this article involve recognising that there is considerable diversity in gender and sexual identity, that terms such as sex and gender are typically used in different ways, and approaches to collecting gender and sexual identity data are likely to frame how populations are understood. For example, there are many differences in health and well-being between different sexual and gender diverse populations (Leonard et al. 2012; Perales 2019) that are unlikely to be detected by surveys that use binary options for sex or gender, or inadequately capture data on sexual identity.

Recognising these issues, an analysis was conducted in 2016 of national population-based surveys in the US to assess how effectively questions capture detailed information from sexual and gender diverse populations (Federal Interagency Working Group on Improving Measurement of Sexual Orientation and Gender Identity in Federal Surveys 2016). Considerable variation was found across surveys in question wording and available response options. For example, some sexual identity questions only enabled responses of 'straight', 'lesbian or gay', or 'bisexual', while others allowed a greater range by including an 'other' category. The evidence is clear that there is a greater diversity of sexual identities than these, such as pansexual and queer, which are distinct from identities such as gay or bisexual (van Anders 2015). Similar work on assessing the strengths and weaknesses of approaches to asking questions in population surveys has also been conducted in other countries, such as Canada (Waite and Denier 2019) and the UK (Sullivan 2020).

It is important to examine whether Australia shares similar challenges and needs in designing surveys to effectively capture data that better reflects sexual and gender diverse populations. Identifying potential implications of different approaches to questions would assist demographers and population researchers in developing strategies to ensure that sexual and gender diverse populations are appropriately counted in Australia. How data is collected has important implications for statistical estimations that seek to identify these populations, estimate population sizes, and understand key differences between them, which informs policymaking in areas such as health, education, and social services, as well as how we understand their lives more broadly (Cahill and Makadon 2017; Gates 2017).

In this article, we focus on a selection of large and prominent surveys conducted over the past ten years. We had one main aim: to compare and discuss how gender and sexual identity questions have been asked across different surveys. We also note the percentages of respondents reported from each survey according to gender or sexual identity, where available. We provide a combined analysis and discussion to draw attention to implications related to specific surveys and to identify important considerations for future studies.

2. Data and methods

2.1. Procedure

Our review focused on the Census and other national surveys conducted in Australia that are known to be important sources of data for policy and research. The team utilised their combined knowledge of existing national surveys in Australia to identify potential case examples. Selection was based on several considerations. First, to ensure relevance to the contemporary sociocultural environment, we only included those conducted in the past ten years. Second, to examine whether survey questions are constructed differently depending on the target population, we included examples of those that either targeted a general population or sexual and gender diverse populations. Third, to enhance diversity in different types of surveys examined, we focused on those designed for different purposes, such as health versus employment versus community participation. For surveys specifically targeting sexual and gender diverse populations, we further attended to those that focused on trans and gender diverse populations to examine how survey questions on gender are constructed when confined to these populations. Finally, we limited the scope to those that also included sexual identity questions or were able to report some related information (e.g. the Census).

The scoping exercise identified five general population surveys, including the Census, and four surveys focused on sexual and gender diverse populations that satisfied the above considerations. It is important to note the primary aim was to identify a broad selection of surveys as case examples rather than exhausting all possibilities, with the objective of documenting and discussing some but not necessarily all of the diversity in the framing of gender and sexual identity questions.

For each survey, we document the year it was conducted, sample size, gender and sexual identity question wording (where included in the survey), available response options, and percentages of respondents for key response options. The analysis was primarily descriptive to enable a qualitative investigation. However, we focused on three key areas: (1) different terms used in the wording of questions (e.g. sex versus gender) and (2) variations in response options. We further note the percentages of respondents reporting different genders and sexual identities to provide additional context, but acknowledge that these may also vary based on other aspects of survey methodology.

2.2. Overview of survey case examples

Table 1 displays the survey case examples, information about each survey including survey sampling, the wording of questions as available, and percentages of respondents for key response options. The five national general population surveys included the Census (ABS 2017), General Social Survey (GSS; ABS 2015), Household, Income and Labour Dynamics in Australia Survey (HILDA; Melbourne Institute 2020), Second Australian Study of Health and Relationships (ASHR2; Richters, Badcock et al. 2014), and the Australian Gen Z Study (AGZ; Singleton et al. 2019). The four surveys that specifically focus on sexual and gender diverse populations included Private Lives 2 (PL2; Leonard et al. 2012), Rainbow Ageing (Lyons et al. 2019), the Australian Trans and Gender Diverse Sexual Health Survey (ATGDSHS; Callander et al. 2019), and Scrolling Beyond Binaries (SBB; Byron et al. 2019).

Table 1: Examples of sexual and gender identity questions from selected national surveys conducted in Australia in the past ten years

| Survey | Survey details | Sampling | Sex/gender question | Sexual identity question | Demographic composition‡ |
|---|--|---|---|---|--|
| <i>Surveys focused on general populations</i> | | | | | |
| Census of Population and Housing ('Census') | First national census commenced in 1911, conducted every 5 years. Most recent wave in 2016. | Self-completed online or paper <i>N</i> = 23,401,892 | <u>Sex:</u> Is the person male or female: * Male * Female Upon request, respondents could receive a special form with an 'other' option. 2016 was the first time this was made available. | <u>Sexual identity:</u> No sexual identity questions. However, counts of persons in same-sex couples can be manually calculated (see Wilson & Shalley, 2018). | <u>Sex (2016):</u> 49.3% male, 50.7% female <u>Same-sex couples (2016):</u> 46,800 same-sex couples, or 0.9% of all couples (23,700 male; 23,000 female) |
| General Social Survey (GSS) | Commenced in 2002, conducted every 4 years. Most recent wave in 2014. Sexual orientation item was included from 2014. | Face-to-face interview <i>N</i> = 12,932 | <u>Sex:</u> * Male * Female | <u>Sexual identity:</u> Which of the following options best describes how you think of yourself? * Straight (heterosexual) * Gay or lesbian * Bisexual * Other * Don't know | <u>Sex (2014):</u> 49.3% male, 50.7% female <u>Sexual identity (2014):</u> 97.0% heterosexual, 3.0% non-heterosexual (1.5% gay or lesbian; 1.5% bisexual, other, or don't know) |
| Household, Income and Labour Dynamics in Australia (HILDA) Survey | Commenced in 2001, conducted annually (combination of interview [12%] and self-completion [88%]). Sexual identity item was included in 2012 (Wave 12) and 2016 (Wave 16). | Interview (face-to-face or telephone) or self-complete <i>N</i> = 15,380 | <u>Sex:</u> Are you... * Male * Female * Other | <u>Sexual identity:</u> Which of the following categories best describes how you think of yourself? * Heterosexual or straight * Gay or lesbian * Bisexual * Other * Unsure/don't know * Prefer not to say | <u>Sex (2018):</u> 48.6% male, 51.4% female <u>Sexual identity (2012):</u> 91.9% heterosexual or straight, 1.4% gay or lesbian, 1.4% bisexual, 0.8% other, 0.9% unsure/don't know, 2.5% prefer not to say |

| Survey | Survey details | Sampling | Sex/gender question | Sexual identity question | Demographic composition‡ |
|---|--|--|---|---|--|
| Second Australian Study of Health and Relationships (ASHR2) | Commenced in 2001-2002, then again in 2012-2013. | Telephone interview using modified random-digit phone dialling N = 20,094 | <u>Sex:</u> Telephone interviewers asked to interview a male or female person in the household and a tailored questionnaire was administered depending on whether the person was male or female. | <u>Sexual identity:</u> Do you think of yourself as: * Heterosexual or straight * Homosexual (gay [asked of males]; lesbian [asked of females]) * Bisexual * Queer * Not sure, undecided * Something else/other | <u>Sex (2012-3):</u> 49.6% male, 50.4% female <u>Sexual identity (2012-3):</u> 96.5% heterosexual, 1.6% gay/lesbian, 1.8% bisexual, 0.2% other |
| Australian Gen Z (AGZ) Study | A 2017 nationally representative telephone survey of young people aged 13-18 years (plus 30 follow-up interviews). | Telephone interview N = 1,200 | <u>Gender:</u> Telephone interviewers asked: Can I please confirm your gender? If you would prefer, please just say the number before each option I read out. Do you think of yourself as? (Multiple response) * One, Male * Two, Female * Three, Trans * Four, Intersex * Five, Gender Queer * Other (SPECIFY) * Don't know * Refused | <u>Sexual identity:</u> The next question is about your sexual identity. If you would prefer, please just say the number before each option I read out. Do you think of yourself as? (Multiple response) * One, Straight, that is heterosexual * Two, Lesbian/Homosexual/Gay * Three, Bisexual * Four, Questioning * Five, Queer * Something else (SPECIFY) * Don't know * Refused | <u>Gender:</u> 49.8% male, 48.7% female, 0.4% trans, 0% intersex, 0.7% gender queer, 0.2% other, 0.3% no response <u>Sexual identity:</u> 86% straight, 2% lesbian, homosexual or gay, 7% bisexual, 4% questioning, 1% queer or something else, 1% don't know |

| Survey | Survey details | Sampling | Sex/gender question | Sexual identity question | Demographic composition† |
|---|--|--|---|--|--|
| <i>Surveys focused on sexual and gender diverse populations</i> | | | | | |
| Private Lives 2 (PL2) | Commenced in 2006, then again in 2011. Target: Lesbian, gay, bisexual, and transgender (LGBT) Australians | Self-completed online and paper N = 3,835 | <u>Gender:</u> Thinking about your gender and sexuality, are you: * Male * Female * Trans (identifying as male) * Trans (identifying as female) * I prefer to refer to myself as... (write in answer) | <u>Sexual identity:</u> Do you think of yourself primarily as: * Gay * Lesbian * Queer * Bisexual * Dyke * Heterosexual/straight * Not sure or undecided; * I prefer to refer to myself as... (write in answer) | <u>Gender (2011):</u> 44.4% male, 48.2% female, 4.4% transgender (3.2% identified as female; 1.2% identified as male), 3% preferred another term <u>Sexual identity (2011):</u> 42.6% gay, 30.1% lesbian, 7.1% queer, 11.8% bisexual, 2.1% heterosexual, 1.7% not sure, 4.5% preferred another term |
| Rainbow Ageing | Conducted in 2017, one wave only. Target: Lesbian, gay, bisexual, and transgender (LGBT) Australians | Self-completed online N = 895 | <u>Gender:</u> How do you describe your gender? * Male * Female * Trans female / trans woman * Trans male / trans man * Genderqueer * Biqueer * Agender * Other (please describe) | <u>Sexual identity:</u> How do you describe your sexuality? * Gay * Lesbian * Bisexual * Queer * Pansexual * Asexual * Straight or heterosexual * Other (please describe) | <u>Gender:</u> 61.7% male, 32.1% female, 4.3% transgender (0.4% identified as male; 3.9% identified as female), 1.8% other <u>Sexual identity:</u> 58.7% gay, 29.4% lesbian, 5.4% bisexual, 1.2% queer, 0.7% pansexual, 0.8% asexual, 1.8% heterosexual, 2.0% other |

| Survey | Survey details | Sampling | Sex/gender question | Sexual identity question | Demographic composition‡ |
|--|--|------------------------------------|--|--|--|
| Australian Trans and Gender Diverse Sexual Health Survey (ATGDSHS) | Conducted in 2018, one wave only. Target: Trans and gender diverse (TGD) Australians | Self-completed online N = 1,613 | <u>Gender:</u> Participants self-described their gender in an open-ended question. | <u>Sexual identity:</u> Participants self-described their 'sexual orientation' in an open-ended question. | <u>Gender:</u> Responses stratified into 4 categories for reporting: 21.9% trans men, 24.6% trans women, 14.3% non-binary assigned male at birth, 39.2% non-binary assigned female at birth <u>Sexual identity:</u> Responses were organised into 9 categories: queer; pansexual; bisexual; homosexual; asexual; heterosexual; gynosexual; androsexual; and 'no label'. Proportions for each varied as a function of gender category |
| Scrolling Beyond Binaries (SBB) | Conducted in 2016, one wave only. Target: LGBTIQ+ young people aged 16-35 years | Self-completed online N = 1,304 | <u>Gender identity:</u> What is your current gender identity? * Male * Female * Non-binary * Different identity (please state) <u>Gender:</u> What gender were you assigned at birth? * Male * Female | <u>Sexual identity:</u> Do you consider yourself to be: * Lesbian or gay * Straight or heterosexual * Bisexual * Queer * Different identity (please state) | <u>Gender identity:</u> 26.5% male, 45.6% female, 19.4% non-binary, and 8.6% described their own gender identity (e.g., trans, agender, genderqueer). <u>Sexual identity:</u> 33.9% lesbian or gay, 24.7% bisexual, 18% queer, and 19.8% chose to describe their sexual identity, which included pansexual, asexual, panromantic, and demisexual |

Notes. ‡ of most recent wave or most recent wave with relevant data. N references the sample size from the data wave referenced in the 'demographic composition' column, and refers to respondents who contributed eligible data only. For the sex/gender and sexual identity questions, we have used the terms used in the surveys, such as 'sex', 'gender', or 'gender identity'. Where no terms were used for sex or gender (e.g. "Are you..."), we have used 'sex' if options noted male or female. Where no terms were used for sexuality, we have used 'sexual identity' if options noted identity labels such as lesbian, gay, bisexual etc. The question wordings for each survey are provided where available, but these were unavailable in some instances (e.g. the GSS for sex). Data were sourced from the following: Census: ABS (2017); GSS: ABS (2015); HILDA: Department of Social Services and Melbourne Institute of Applied Economic and Social Research (2019), Wilkins et al. (2019), Wooden (2014); ASHR2: Richters, Altman et al. (2014), Richters, Badcock, et al. (2014); PL2: Leonard et al. (2012); ATGDSHS: Callander et al. (2019); Scrolling Beyond Binaries: Byron et al. (2019); AGZ and Rainbow Ageing: data from source authors.

As noted in Table 1, surveys varied by mode, such as interviews or self-completed surveys. The general population surveys varied most, with surveys administered either online, paper, or via interviews. The sexual and gender diverse surveys were all self-completed and mostly conducted online. Mode can potentially influence responses for several reasons, such as enabling questions to be clarified when administered via interview or allowing privacy when self-completed (Kuhne et al. 2019), which needs to be considered in the interpretation of findings. Also, sample sizes varied between surveys. Apart from the Census, the sample sizes for the surveys ranged from 895 for Rainbow Ageing to 20,094 for ASHR2.

3. Analysis and discussion

3.1. Sex and gender

As displayed in Table 1, of the general population surveys, the GSS and ASHR2 offered only binary options of male and female. The HILDA survey offered an 'other' option and the Census allowed respondents to request an additional form with an 'other' option. All labelled this category as sex (rather than gender) and all asked the question in prescriptive terms (e.g. 'are you...'). Conversely, the AGZ and all the sexual and gender diverse surveys labelled this category as gender or gender identity and offered additional response options. Specifically, they offered four options, including male, female, and transgender, as well as a text-entry version of 'other' to allow respondents to enter their own description. An exception was the ATGDSHS, which provided a single open-ended text-entry field for respondents to describe their gender rather than choosing from fixed options. These surveys also asked the question in identity terms, e.g. 'how do you identify' / 'how do you refer to yourself', with the exception of PL2. These differences in question framing may appear subtle but could potentially be read differently by respondents. For example, asking a question in prescriptive terms may result in some respondents interpreting it as sex assigned on their birth certificate. When framed as identity, it enables respondents to indicate how they actually describe themselves. Surveys may therefore need to pay close attention to precise question framing. There has also been a move toward a two-step process, where respondents are first asked for their sex assigned at birth and then their gender (PASH.tm 2017), which enables identification of those who are not cisgender. Importantly, this approach captures the experiences of people who have taken steps to affirm their gender, but do not identify as trans.

In terms of the different responses, readers need to be mindful that differences between survey modes and sample sizes may have influenced responses, as noted above. However, despite some of the differences, when only binary options were offered, about half the sample each reported as male or female. However, when options outside the sex/gender binary were available, these were used to varying degrees ranging from 6.2% of respondents in Rainbow Ageing to 28.4% of respondents in SBB. Importantly, we cannot estimate how many respondents might have used non-binary labels or would have used 'other' or 'prefer not to say' options if they had been available in the general population surveys, as these options were not available in those collections with the exception of HILDA. This means that there are no reliable estimates of how many sexual and gender diverse individuals there are in Australia. The exception to this is the AGZ survey, but it is limited to adolescents.

There is some debate in the literature about how questions about being transgender should be asked. Some theorists have argued that sex and gender are complex constructs that are inseparable from each other (e.g. Fugard 2020), and others argue that they cannot be used interchangeably (e.g. Gates 2014). PASH.tm, the peer advocacy network for trans masculinities, states in their position statement on best practice data collection (PASH.tm 2017) that trans and gender diverse people are not a homogeneous group, and should not be treated as one. They highlight the need for designing survey questions that are inclusive of all genders and of people who do not identify with binary gender, and to provide reliable data without erasing any groups. For example, some trans people identify strongly as male or female and trans, others do not identify as trans at all, whilst others identify as only trans for the purposes of visibility (see Bauer et al. 2017). Moreover, not everyone whose gender identities differ from their birth sex consider themselves trans (Darwin 2020), and indeed in the ATGDSHS, approximately half the sample identified as transgender while the other half identified as non-binary. As such, they recommend that any gender identity question allows for multi-select answers, since single-option answer selections do not accurately reflect the gender experience of many trans people, and may result in under-reporting of gender diversity.

When available, some respondents select more than one gender identity, or if describing themselves in their own words use combinations of categories (e.g. “trans masculine gender nonconforming femme”) or describing a temporally variant gender identity (e.g. “some days I am a girl, other days I have no gender”; see Byron et al. 2019). This aligns with work from the US, in which more than 13% of non-heteronormative respondents preferred to select more than one gender identity option than to simply enter their own term (Ruberg and Ruelos 2020), and contradicts ideas that treat gender as synonymous with sex and as unchanging over the course of a lifetime (see Westbrook and Saperstein 2015). In addition, it suggests that for many sexual and gender diverse people, gender identity cannot be characterised simply by selecting one term from an inclusive list, but instead by being able to identify multiple, overlapping elements of identity. Taken together, this suggests that there is a level of complexity and nuance in how survey respondents self-report their gender identities, which is unlikely to be fully captured in items that simply allow for a single response of male or female.

3.2. Sexual identity

Of the general population surveys displayed in Table 1, the majority asked respondents to self-describe their sexual identity by selecting either straight/heterosexual, gay or lesbian, bisexual, and a combination of either other, don't know, unsure, or prefer not to say. The Census does not allow a direct count of non-heteronormative individuals, but researchers have made counts of individuals in same-sex couples, based on the number of people in Australia who reported living with their same-sex partner on census night (which suggests less than 1% of couples are same-sex; ABS 2017). This does not take into account any other non-heteronormative Australians, such as single people who identify as lesbian or gay, bisexual-identifying people who are in an opposite-sex relationship, pansexual or asexual individuals, etc. While the census does not include data on sexual identity, the ABS does collect information about sexual identity from respondents in the GSS. This survey found approximately 3% self-reported as 'non-heterosexual.' It is also worth noting that a study by Wilson and Shalley (2018) estimated that 3.2% of the Australian population were non-heterosexual based on data from several population surveys and the Census.

The AGZ and all the surveys that focused on sexual and gender diverse populations also asked for a self-description of sexual identity, and offered similar responses to the general population surveys, but also included further options, such as queer, questioning, asexual, and pansexual, as well as text-entry options. This resulted in a much larger range of responses. For example, 19.8% of respondents in the SBB survey chose to describe their own sexual identity, rather than choosing lesbian, gay, straight, bisexual, or queer. This suggests that more limited options used in some surveys, such as 'lesbian/gay' and 'bisexual', do not capture the range of identities that Australians use. Ratifying this argument is the finding that in the ATGDSHS, where the only option was to provide a text response, the open-ended responses provided were coded into nine different categories. Further follow-up analysis of these data using hierarchical clustering techniques yielded three non-exclusive clusters (Callander et al. 2020). This work presents a potentially interesting scenario, where the widest range of responses are made possible to respondents and then employing analytical techniques in different ways to aggregate data.

As with sex and gender questions, there is debate in the literature about how best to ask questions of sexual identity in surveys, although it seems more readily accepted that a range of response options are necessary. Indeed, some have questioned the appropriateness of having a wide range of response options (see Sabia et al. 2017 for a discussion). There are logistical considerations, such as balancing brevity in survey length and conciseness in response data against deeper and nuanced understandings of the sexual identities that people use.

We recognise that there are also implications for asking people to choose from a range of choices when they might be unfamiliar with some of the options (e.g. demisexual, pansexual, panromantic, etc). Indeed, a study by Sell, Wells and Wypij (1995) revealed that some survey respondents select 'unsure' because they do not understand the question or the response options rather than because they are undecided. Finally, having options to select from suggests that sexual identities are categorical and fixed, which runs counter to many contemporary conceptualisations of sexual identity which posit that sexuality is a dynamic spectrum (e.g. D'Augelli et al. 1995). This is particularly important in light of research from Europe that showed 5.9% of Europeans identified as LGBT on a dichotomous yes/no question, but over 10% identified as more than 0 on the Kinsey scale (that is, more than double chose an option that is not 'exclusively heterosexual' on a 7-point scale of sexual orientation; Deveaux 2016).

As per Table 1, there are a suite of non-committal response options provided in some surveys, including 'unsure', 'don't know', 'prefer not to say.' These are often necessary to avoid respondents dropping out of a survey if they are unsure how to answer the question or wish not to disclose. Many of the surveys also included an 'other' option for those whose identity is not listed in the response options. However, this has been met with varying levels of criticism. For example, Badgett (2009) criticises the use of 'other' as a response since it does not provide options for re-classification, and these respondents typically become excluded from data sets during analyses, which falsely decreases estimates of those who would not consider themselves heterosexual and attenuates statistical power. Interestingly, 2.5% of HILDA respondents, which would equal over half a million Australians, indicated that they preferred not to report their sexual identity. This could mean that these respondents did not have the right options to choose from, or did not wish to disclose their sexual

identity. In line with this contention, Badgett recommends avoiding a “prefer not to say” response option.

When asking questions about sexual identity, it is often unclear precisely what is meant. For the most part, survey respondents likely focus on the gender of the people they are sexually attracted to, as this is the typical focus in such discussions of sexuality (see van Anders, 2015). However, the survey might equally be trying to measure other aspects of sexual orientation, including sexual behaviour or sexual attraction (or a combination of all the above). As such, estimates of populations who are not heterosexual will vary based on how questions are operationalised. For example, only asking about sexual identity might exclude individuals who engage in same-sex sexual behaviour or who experience same-sex sexual attraction without acting on it. It is worth considering that questions that ask about different aspects of sexual orientation will attract qualitatively different subpopulations, and that they will be different sizes. For instance, the evidence suggests that the proportion of people who have engaged in same-sex sexual behaviour is far higher than the proportion who self-identify as gay, lesbian, or bisexual. For example, in the Second Australian Study of Health and Relationships, 96.8% of men and 96.3% of women identified as heterosexual, yet 90.7% of men and 82.3% of women reported having sexual experiences exclusively with the other sex (Richters, Altman et al. 2014; see also Spiegelhalter 2015). Wilson and Shalley (2018) highlight the need for purposefully selecting definitions so that population estimates from these surveys reflect the subject of the research. For example, same-sex sexual behaviour might be a more appropriate focus than self-identification for some forms of health surveillance research.

4. Conclusions

Comprehensive population-level data is essential for many reasons, including government planning, understanding health needs, and informing research across disciplines. Despite this, surveys have tended to adopt different approaches to asking questions about gender and sexual identity, including those specifically focusing on sexual and gender diverse populations. This adds to the challenge of comparing findings from one survey to another. In addition, questions are often limited to fixed options that are unlikely to adequately capture the identities that many people have, thus potentially resulting in respondents either misclassifying their identity or discontinuing the survey. In either case, there is the risk of erasure, where some respondents are made invisible or inadequately represented in survey results. This has the potential implication of confounding the categories that have been provided. It is especially the case for gender, where it might be erroneously assumed that all respondents who had no option other than to select male or female are cisgender. In addition, as we discussed, identities may not always be singular, fixed, or discrete, and may require respondents to select multiple options or describe their identity in a way that is meaningful to them. Practical considerations, such as the length of questions and response sets and how to frame questions or providing definitions of terms so that all respondents understand what is being asked of them, add further challenges, but are unlikely to be insurmountable.

Ultimately, it would be beneficial to have guidelines developed for different data collection purposes with regard to framing questions and analysing responses. Informing this, it will be important for researchers to examine specifically how results vary according to question framing. Given that there are numerous gender and sexual identities, the implications for the reporting of results and potential

policymaking of how identities are aggregated into larger categories, and the question of what comprises appropriate levels of aggregation, also requires investigation. Consulting with key communities, such as sexual and gender diverse communities, to ensure relevance and appropriateness of questions will be further important.

5. Key messages

- There is wide variation in approaches to identifying sexual and gender diverse populations in Australia.
- Developing greater consistency in approaches across surveys and refining questions will more fully capture diverse identities and variations in embodiment.
- With advancements in approaches there is an opportunity to collect data that provides greater representation of sexual and gender diverse populations and a stronger basis for estimating the demography of these populations.
- Refining survey techniques in this space will ensure that diverse populations are more fully counted in Australia.
- Counting sexual and gender diverse populations is especially important for informing service delivery, policymaking, and research.

References

- ABS (2015) General Social Survey household questionnaire. Cat. No. 4159.0. Canberra: Australian Bureau of Statistics.
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4159.02014?OpenDocument>. Accessed on 14 July 2020.
- ABS (2016) Standard for sex and gender variables. Canberra: Australian Bureau of Statistics.
<https://www.abs.gov.au/statistics/standards/standard-sex-and-gender-variables/2016>. Accessed on 5 October 2020.
- ABS (2017) Census of Population and Housing: Understanding the Census and Census Data, Australia, 2016. Catalogue No. 2900.0. Canberra: Australian Bureau of Statistics.
<https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2900.0~2016~Main%20Features~Understanding%20the%20Census%20and%20Census%20Data~1>. Accessed on 14 July 2020.
- ABS (2019) ABS Media Statement on sexual orientation and gender identity questions and the 2021 Census. Canberra: Australian Bureau of Statistics Media Centre.
<https://www.abs.gov.au/websitedbs/d3310114.nsf/home/ABS%20Media%20Statement%20on%20sexual%20orientation%20and%20gender%20identity%20questions%20and%20the%202021%20Census>. Accessed on 14 July 2020.
- Anderson J R and Holland E (2015) The legacy of medicalising 'homosexuality': a discussion on the historical effects of non-heterosexual diagnostic classifications. *Sensoria* 11(1): 4-15.
- Australian Government (2013) Australian Government guidelines for the recognition of sex and gender. Canberra: Australian Government Attorney General's Department.
<https://www.ag.gov.au/sites/default/files/2020-03/AustralianGovernmentGuidelinesontheRecognitionofSexandGender.pdf>. Accessed on 5 October 2020.
- Badgett M V L (2009) Best practices for asking questions about sexual orientation on surveys. Los Angeles: UCLA, The Williams Institute.

- Bauer G R, Braimoh J, Scheim A I and Dharma C (2017) Transgender-inclusive measures of sex/gender for population surveys: mixed-methods evaluation and recommendations. *PLoS ONE* 12(5): e01780434.
- Butler J (2006) *Gender Trouble*. New York: Routledge.
- Byron P, Robards B, Hanckel B, Vivienne S and Churchill B (2019) “Hey, I’m Having These Experiences”: Tumblr Use and young people’s queer (Dis) connections. *International Journal of Communication* 13: 2239-2259.
- Cahill S R and Makadon H J (2017) If they don't count us, we don't count: Trump administration rolls back sexual orientation and gender identity data collection. *LGBT Health* 4(3): 171-173.
- Callander D, Newman C E, Holt, M, Rosenberg S, Duncan D T, Pony M, Timmins L, Cornelisse V, Duck-Chong L, Wang B and Cook T (2020) The complexities of categorizing gender: a hierarchical clustering analysis of data from the first Australian Trans and Gender Diverse Sexual Health Survey. *Transgender Health*.
- Callander D, Wiggins J, Rosenberg S, Cornelisse VJ, Duck-Chong E, Holt M, Pony M, Vlahakis E, MacGibbon J and Cook T (2019) *The 2018 Australian Trans and Gender Diverse Sexual Health Survey: report of findings*. Sydney: The Kirby Institute, UNSW.
- Connell RW (2002) *Gender*. Cambridge, England: Polity.
- Darwin H (2020) Challenging the cisgender/transgender binary: Nonbinary people and the transgender label. *Gender and Society* 34(3): 357-380.
- D'Augelli A R, Patterson C and Patterson C J (1995) *Lesbian, gay, and bisexual identities over the lifespan: psychological perspectives*. Oxford: Oxford University Press on Demand.
- Department of Social Services and Melbourne Institute of Applied Economic and Social Research (2019) The Household, Income and Labour Dynamics in Australia (HILDA) Survey, general release 18 (Waves 1-18). ADA Dataverse. <https://dataverse.ada.edu.au/dataset.xhtml?persistentId=doi:10.26193/IYBXHM>. Accessed on 14 July 2020.
- Deveaux F (2016) Counting the LGBT population: 6% of Europeans identify as LGBT. <https://daliaresearch.com/blog/counting-the-lgbt-population-6-of-europeans-identify-as-lgbt>. Accessed on 14 July 2020.
- Durso L E and Gates G J (2013) Best practices: collecting and analysing data on sexual minorities. In A Baumle (Ed), *International Handbook on the Demography of Sexuality*. Dordrecht, Netherlands: Springer.
- Federal Interagency Working Group on Improving Measurement of Sexual Orientation and Gender Identity in Federal Surveys (2016) Current measures of sexual orientation and gender identity in federal surveys. Washington DC: Federal Committee on Statistical Methodology.
- Fugard A (2020) Should trans people be postmodernist in the streets but positivist in the spreadsheets? A reply to Sullivan. *International Journal of Social Research Methodology* .23(5): 525-531.
- Gates G J (2014) LGB families and relationships: Analyses of the 2013 National Health Interview Survey. Los Angeles: Williams Institute, UCLA. <http://williamsinstitute.law.ucla.edu/wp-content/uploads/lgb-families-nhis-sep-2014.pdf>. Accessed on 5 October 2020.
- Gates G J (2017) LGBT data collection amid social and demographic shifts of the US LGBT community. *American Journal of Public Health* 102(8): 1220–1222.
- Hammarström A and Annandale E (2012) A conceptual muddle: an empirical analysis of the use of ‘sex’ and ‘gender’ in ‘gender-specific medicine’ journals. *PLoS One* 7(4): e34193
- Katz-Wise S L (2015) Sexual fluidity in young adult women and men: associations with sexual orientation and sexual identity. *Psychology and Sexuality* 6(2): 189-208.
- Kuhne S, Kroh M and Richter D (2019) Comparing self-reported and partnership-inferred sexual orientation in household surveys. *Journal of Official Statistics* 35(4): 777-805.

- Leonard W, Pitts M, Mitchell A, Lyons A, Smith A, Patel S, Couch M and Barrett A (2012) *Private Lives 2: The second national survey of the health and wellbeing of gay, lesbian, bisexual and transgender (GLBT) Australians*. Monograph Series No. 86. Melbourne: La Trobe University.
- Liszewski W, Peebles J K, Yeung H and Arron S (2018) Persons of nonbinary gender: awareness, visibility, and health disparities. *New England Journal of Medicine* 379(25): 2391-2393.
- Lyons A, Alba B, Waling A, Minichiello V, Hughes M, Barrett C, Fredriksen-Goldsen K, Edmonds S and Blanchard M (2019) Recent versus lifetime experiences of discrimination and the mental and physical health of older lesbian women and gay men. *Ageing and Society* doi: 10.1017/S0144686X19001533.
- Melbourne Institute (2012) HILDA self-completion questionnaire. Melbourne: The University of Melbourne. <https://melbourneinstitute.unimelb.edu.au/assets/documents/hilda-questionnaires/SelfCompletionQuestionnaireW12M.pdf>. Accessed on 8 May 2020.
- Mizock L and Mueser K T (2014) Employment, mental health, internalized stigma, and coping with transphobia among transgender individuals. *Psychology of Sexual Orientation and Gender Diversity* 1(2): 146.
- National LGBTI Health Alliance (2020) Snapshot of mental health and suicide prevention statistics for LGBTI people. Sydney: National LGBTI Health Alliance. https://d3n8a8pro7vhmx.cloudfront.net/lgbtihealth/pages/240/attachments/original/1595492235/2020-Snapshot_mental_health_%281%29.pdf?1595492235. Accessed on 5 October 2020.
- ONS (2019) What is the difference between sex and gender? Exploring the difference between sex and gender, looking at concepts that are important to the Sustainable Development Goals. London: Office of National Statistics. <https://www.ons.gov.uk/economy/environmentalaccounts/articles/whatisthedifferencebetweensexandgender/2019-02-21>. Accessed on 5 October 2020.
- PASH.tm (2017) Position statement: data collection. Sydney: PASH.tm. http://www.grunt.org.au/wp-content/uploads/PASH.tm-Data-Collection_March2018.pdf. Accessed on 14 July 2020.
- Perales F (2019) The health and wellbeing of Australian lesbian, gay and bisexual people: a systematic assessment using a longitudinal national sample. *Australian and New Zealand Journal of Public Health* 43(3): 281-287.
- Richters J, Altman D, Badcock P B, Smith A M A, de Visser R O, Grulich A E, Rissel C and Simpson J M (2014) Sexual identity, sexual attraction and sexual experience: The Second Australian Study of Health and Relationships. *Sexual Health* 11(5): 451-460.
- Richters J, Badcock P B, Simpson J M, Shellard D, Rissel C, de Visser R O, Grulich A E and Smith A M A (2014) Design and methods of the Second Australian Study of Health and Relationships. *Sexual Health* 11(5): 383-396.
- Ruberg B and Ruelos S (2020) Data for queer lives: how LGBTQ gender and sexuality identities challenge norms of demographics. *Big Data and Society* 7(1): 2053951720933286.
- Sabia J J, Wooden M and Nguyen T T (2017) Sexual identity, same-sex relationships, and labour market dynamics: new evidence from longitudinal data in Australia. *Southern Economic Journal* 83(4): 903-931.
- Sell R L, Wells J A and Wypij D (1995) The prevalence of homosexual behaviour and attraction in the United States, the United Kingdom and France: Results of national population-based samples. *Archives of Sexual Behavior* 24: 235-248.
- Singleton A, Rasmussen M L, Halafoff A and Bouma G D (2019) The AGZ Study: project report. Australia: Australian National University, Deakin University and Monash University.
- Spiegelhalter D (2015) *Sex By Numbers: What Statistics Can Tell Us About Sexual Behaviour*. London: Profile Books.

- Sullivan A (2020) Sex and the census: why surveys should not conflate sex and gender identity. *International Journal of Social Research Methodology* 23(5): 517-524.
- Van Anders S M (2015) Beyond sexual orientation: integrating gender/sex and diverse sexualities via sexual configurations theory. *Archives of Sexual Behavior* 44(5): 1177-1213.
- Waite S and Denier N (2019) A research note on Canada's LGBT data landscape: where we are and what the future holds. *Canadian Review of Sociology* 56(1): 93-117.
- West C and Zimmerman D H (1987) Doing gender. *Gender and Society* 1(2): 125-151.
- Wilkins R, Laß I, Butterworth P and Vera-Toscano E (2019) The 14th Annual Statistical Report of the HILDA Survey. Melbourne Institute: Applied Economic and Social Research. Melbourne: The University of Melbourne.
- Wilson T and Shalley F (2018) Estimates of Australia's non-heterosexual population. *Australian Population Studies* 2(1): 26-38.
- Wooden M (2014) The measurement of sexual identity in Wave 12 of the HILDA Survey (and associations with mental health and earnings). HILDA Project Discussion Paper Series No. 1/14. Melbourne: The University of Melbourne.