Title

Does sexual orientation vary between disabled and non-disabled men?

Findings from a population-based study of men in Australia

Abstract

Some research suggests that disabled people are more likely to be sexual minorities than non-disabled people, but this evidence comes mainly from younger or older populations. We used data from a large survey of Australian men aged 18-55 to examine the relationship between disability and minority sexual orientations. Results from our statistical analyses suggest that a larger proportion of disabled than non-disabled men are sexual minorities. Our estimates showed that disabled men were at least twice as likely as non-disabled men to be attracted to females and males, not experience sexual attraction, identify as bisexual, identify as homosexual, and have female and male sexual partners—relative to the likelihood of female-only attraction, heterosexual identity, and female-only sexual partners. Findings provide new information about sexual diversity in disabled versus non-disabled Australian men, which can help inform inclusive service provision and identify avenues for future research about sexual minority disabled people.

Keywords: disability, men, sexual orientation, sexual minority, sexual identity, sexual attraction

Word Count: 4651

Introduction

Research on disability and sexuality has challenged myths about the sexualities of disabled people, refuting and discounting beliefs that disabled people cannot have sex, make undesirable sexual partners, or are asexual or hypersexual (Coleman *et al.* 2014; Milligan and Neufeldt 2001; Shakespeare *et al.* 1996; Taleporos and McCabe 2003). While the sexualities and sexual rights of disabled people are increasingly acknowledged, there remains a broad public assumption that disabled people are heterosexual (Ruiz 2017; Shakespeare and Richardson 2018). Disabled people who are sexual minorities—that is, whose sexual orientations differ from the mainstream majority (Mayer *et al.* 2008)—are an under-served group (Fraley *et al.* 2007; Martino 2017; Wilson *et al.* 2016; Abbott and Burns 2007). Increasing our understanding of this sub-population will support efforts to improve their wellbeing, such as making services more inclusive.

Disability is an evolving construct that is conceptualised through diverse frameworks. While the medical model positions disability as a health problem to be cured or managed by the individual, the social model holds that disability is a product of social structures that marginalise people with long-term health conditions or impairments (Oliver 2013; Ruiz 2017). The social model has played an important role in advancing the rights of disabled people (Ruiz 2017), who collectively represent the world's largest minority group. In Australia, estimated disability prevalence is approximately 18% (ABS 2015a).

Sexual orientation is multi-dimensional and encompasses sexual attractions, sexual orientation identity, and gender of sexual partners (Pega *et al.* 2013; Priebe and Svedin 2013; Saewyc *et al.* 2004). These three dimensions are overlapping but distinct. For instance, some heterosexual-identifying males may report that they are attracted exclusively to females but have sex with females and males (Priebe and Svedin 2013). When collecting data on sexual orientation,

it is important to consider multiple dimensions, as these may have different implications for health and wellbeing, in-group membership, access to services, and experiences of marginalisation (Currin *et al.* 2015; Pega *et al.* 2013; Priebe and Svedin 2013). In Australia, recent findings from the General Social Survey (GSS) (ABS 2015b) suggest that 3% of the population identify as gay or lesbian, bisexual, or another non-heterosexual sexual identity. The GSS does not ask respondents about other dimensions of sexual orientation, but in the Australian Study of Health and Relationships (2001/2002), an earlier population-based study, 8.6% of men reported either same-sex attraction or same-sex sexual partners (A. Smith *et al.* 2003a). In that same study, 97.0% of male participants identified as heterosexual, 1.6% as gay and 0.9% as bisexual.

In the context of health and social policy and service provision, there is increasing recognition that people who belong to more than one minority group simultaneously—including sexual minority disabled people—face increased risk of being left behind (Hankivsky *et al.* 2014; Wearing 2010; Daley *et al.* 2007). Heterosexist beliefs of support staff, sex education that assumes heterosexuality, and other discriminatory practices can have harmful consequences for sexual minority disabled people, such as preventing access to needed services and limiting basic rights (Cambridge and Mellan 2000; Abbott 2013; Fraley *et al.* 2007). Understanding the diverse sexual orientations of disabled people in the population will better position policy makers and service providers to meet the needs of sexual minority disabled people equitably and effectively.

Although many disability advocates have suggested that sexual minority status is more common among disabled people than in the general population, there is limited evidence to support this assertion. Some studies from Western European countries and the United States have compared sexual orientation between disabled and non-disabled people, mostly using samples of adolescents or older populations. Based on these limited results, sexual minority status is more

common among disabled people than non-disabled people (Cheng and Udry 2002; Emlet 2016; Field *et al.* 2013; Karen I. Fredriksen-Goldsen *et al.* 2013; K. I. Fredriksen-Goldsen *et al.* 2012; Wienholz *et al.* 2016). However, these statistics leave some key knowledge gaps. First, disability is highly correlated with age, so having data from younger and older people—but not those in between—paints an incomplete picture. Second, the evidence focuses mainly on sexual identity over other dimensions of sexual orientation (i.e. sexual attraction and gender of sexual partners). Finally, studies do not always report data from respondents who are questioning aspects of their sexual orientation, or who use alternative language to describe it, thus we know very little about people who are unsure of their sexual attraction/identity, do not experience sexual attraction, or describe their sexual identity using alternative language to the options provided. Given the degree of marginalization that many disabled people experience in relation to their sexuality, these additional dimensions and categories may be important to gaining a more complete understanding of sexual orientation in the disabled population.

To begin to address these gaps in the literature, we examine the prevalence and relative odds of minority sexual orientations in Australian disabled men, compared to non-disabled men, using data from Ten to Men (The National Longitudinal Study of Male Health) (Currier *et al.* 2016). Ten to Men is a large, population-based study of the health and wellbeing of Australian men and boys. We analyse data from male participants aged 18-55 and present findings across three dimensions of sexual orientation; sexual attraction, sexual identity, and gender of sexual partners.

Methods

Data source

We used data from men who participated in the first wave of the Australian Ten to Men study, a national survey on male health. The study received approval from the University of Melbourne Human Research Ethics Committee and conformed to Declaration of Helsinki principles. The procedures and materials used in Ten to Men are described in detail elsewhere (Currier *et al.* 2016). Briefly, the Ten to Men cohort was recruited in 2013/14 using stratified, multi-stage, cluster random sampling where households were the primary sampling unit. Participants answered questions in five domains (physical health, mental health and wellbeing, health behaviours, social determinants of health, and health service utilisation and health knowledge) via self-completed questionnaires (Currier *et al.* 2016). The survey had a response rate of 36%. The current study—a secondary analysis of the data collected at wave 1—used responses from 13,892 men aged 18 to 55 years.

Disability

We identified disabled participants using the Washington Group short set questionnaire. The Washington Group questions are designed to capture common functional limitations rather than identify specific conditions or disability types (Madans *et al.* 2011). Respondents were not asked directly if they were disabled; rather, they were asked if they had difficulty in six core activity domains: *Seeing, even if wearing glasses*; *Hearing, even if using a hearing aid*; *Walking or climbing steps*; *Remembering or concentrating*; *With self-care such as washing all over or dressing*; and *Understanding or being understood while using your usual (customary) language*. In each domain, participants chose from four response categories: *No – no difficulty*; *Yes – some difficulty*; *Yes – a lot of difficulty*; *Cannot do at all*. Following Washington Group

recommendations, responses were combined into a binary variable for disability, in which a response of "a lot of difficulty" or "cannot do at all" in at least one domain was classified as disabled (Madans *et al.* 2011). Responses that were missing and/or invalid across all six domains (n=206) were excluded.

Sexual orientation

The first question in the 'Relationships and sex' section of Ten to Men asked about sexual attraction: *Which of these statements best describes your sexual feelings at this time in your life?* Participants could respond that they were attracted only to females, only to males, to males and females, that they were unsure, or that they felt no attraction to others (Hillier *et al.* 2010). Following sexual attraction was a question about sexual identity: *Do you think of yourself as: Heterosexual; Bisexual; Homosexual; Not sure; Other* (Hillier *et al.* 2010). Responses for sexual attraction and sexual identity were coded into categorical variables, each with five categories as described above.

We derived information on gender of sexual partners from the following question: *So far in your life, how many <u>people</u> have you had sex with (vaginal, oral, or anal sex)?* (A. M. A. Smith *et al.* 2003b). Participants were prompted to answer this question only if they also responded "yes" to *Have you ever had sex with someone? That is, vaginal sex, oral sex, or anal sex.* They were instructed to write the total number of lifetime female and male partners separately, and to write "0" if they had "not had sex with a person of a particular gender" (Natsal Study 2010). From this data, we derived a single categorical variable representing the gender(s) of all lifetime partners: only female; male and female; only male. Following guidelines described by Bauer & Brennan (2013), we classified lifetime sexual partners as 'exclusively male' or 'exclusively female' based

on having one or more partners of a single gender, and as 'male and female' where participants reported at least one male and one female partner. Men who responded "yes" to having a sexual history but wrote 0 male and 0 female lifetime sexual partners (n=28) were not included in the analysis for gender of lifetime sexual partners.

Other variables

In our statistical models (see analytic approach for more details), we adjusted for variables that are known to be associated with sexual orientation and disability. These included: age (18-25 years, 26-35 years, 46-55 years); educational attainment (year 12 or greater, less than year 12); country of birth (Australia, overseas); and area-based socioeconomic disadvantage (categorised into quintiles based on the Index of Relative Socio-Economic Disadvantage (IRSD) (ABS 2013) with the lowest quintile representing residence in areas of greatest disadvantage). We lacked statistical power to include Aboriginal and Torres Strait Islander (ATSI) status as ATSI men were underrepresented in Ten to Men.

Analytic approach

We obtained descriptive statistics for minority sexual attraction, minority sexual identity, and gender of lifetime sexual partners, stratified by disability. To minimise information loss, we used three different descriptive samples for each dimension of sexual orientation, corresponding to the number of participants who responded to the questions about sexual attraction, sexual identity, and gender of sexual partners, respectively (see the flow diagram in Figure 1 for more details). We then modelled the odds of each minority sexual orientation category by disability using logistic regression. Minority sexual attraction was examined by fitting four logistic

regression models to the data: (1) attraction to females and males (vs. females only); (2) attraction to males only (vs. females only); (3) unsure attraction (vs. females only); and (4) no attraction (vs. females only). Minority sexual attraction was examined in four models: (5) bisexual identity (vs. heterosexual identity); (6) homosexual identity (vs. heterosexual); (7) unsure identity (vs. heterosexual); and (8) other identity (vs. heterosexual). Gender of lifetime sexual partners was examined in two models: (9) female and male partners (vs. female only); and (10) male partners only (vs. female partners only). The sample sizes for all logistic regression models were based on the number of participants who gave the reference sexual orientation category (attracted to females only, heterosexual, or female-only sexual partners) plus the number who reported the minority sexual orientation category being compared in that model. Sample sizes for all models are presented in the Supplementary Appendix (Table 1). All models adjusted for the same set of potential confounders; age, country of birth, area level disadvantage, and education. All data were analysed using methods appropriate for survey data (i.e. with sample weights and adjustments for clustering and stratification) (Spittal *et al.* 2016) using Stata (Version 15.0) (StataCorp 2017).

Because gender of sexual partners can be derived using different approaches (Bauer and Brennan 2013), we conducted a sensitivity analysis for gender of lifetime sexual partners in which all categories (sex with females only, sex with males only, sex with males and females) had a two-partner cut-off, instead of a one-partner threshold for sex with females only or males only. Our main models could have been fit more efficiently to the data using multinomial regression, but at the cost of producing estimates that are very difficult to interpret. Nonetheless, we fit multinomial models as a second sensitivity analysis.

Analytic sample

Figure 1 shows the sample flow into the descriptive and regression samples. Data on disability was provided by 13,686 (99%) of eligible men, of whom 13,211 also provided data on educational attainment, country of birth, and at least one dimension of sexual orientation (all provided data on age, and country of birth). Of these participants, 13,173 gave a valid response for sexual attraction, and 12,969 gave a valid response for sexual identity. Of the 13,139 men who provided data on lifetime gender of sexual partners, 11,600 (88%) gave valid responses for gender of lifetime sexual partners.

[insert figure 1]

Results

Table 1 provides a description of the overall analytic sample, stratified by disability, and excluding those who did not report data on covariates. Weighted disability prevalence was 6.8% (data not shown). Regardless of disability status, larger proportions of men were older (26-40 and 41-55 years) than younger (18-25 years). Proportionally more disabled men were aged 41-55 years than non-disabled men. Non-disabled men were fairly evenly distributed across quintiles of relative disadvantage, whereas the distribution of disabled men was skewed toward the more disadvantaged quintiles. Approximately 43% of disabled men and 66% of non-disabled men had completed year 12 or higher education. Proportionally fewer disabled men were born outside Australia than non-disabled men (20% versus 28%).

[insert table 1]

Table 2 presents weighted prevalence proportions describing sexual attraction, identity, and gender of lifetime sexual partner(s), stratified by disability. The difference in prevalence (with 95% confidence intervals and p-values for the difference) between disabled and non-disabled men is also displayed in Table 2. There were notable differences between disabled and non-disabled men across the three dimensions of sexual orientation. While most participants identified as heterosexual, fewer disabled men identified as heterosexual (87.7%) than non-disabled men (93.2%). Among disabled men, 3.9% identified as bisexual, compared to 1.2% of non-disabled men. Relative differences by disability were also pronounced for sexual attraction to females and males, and for male and female lifetime sexual partners. By contrast, differences between disabled and non-disabled men were quite small for homosexual identity, and negligible for exclusively male attraction and exclusively male gender of lifetime sexual partners. Proportionally more disabled men were unsure of their sexual attraction and sexual identity than non-disabled men, but the absolute differences in prevalence were small (a difference of 0.6% for unsure sexual attraction and 1.5% for unsure sexual identity). Proportionally more disabled (3.8%) than non-disabled men (0.8%) stated they had no sexual attraction.

[insert table 2]

Table 3 shows results from the logistic regression models. As our primary interest was the relationship between disability and minority sexual orientations, we present adjusted odds ratios for this variable only, and do not report results for other sociodemographic variables included in the models. Compared to non-disabled men, disabled men had over two-and-a-half times the odds of being attracted to females and males (Model 1: OR 2.58, 95% CI 1.66-3.98) relative to attraction

to females, and had over four times the odds of reporting that they had no attraction (Model 4: OR 4.67, 95% CI 2.48-8.80) relative to attraction to females only. There was no evidence of differences between disabled and non-disabled men in the odds of attraction to males only, or the odds of unsure attraction (relative to females only, Model 2 and Model 3).

Compared to non-disabled men, disabled men had over two-and-a-half times the odds of identifying as bisexual (Model 5: OR 2.73, 95% CI 1.70-4.39) and approximately twice the odds of identifying as homosexual (Model 6: OR 2.01, 95% CI 1.18, 3.42) relative to identifying as heterosexual. We found no evidence of differences between disabled and non-disabled men in the odds of unsure or other sexual identity (relative to heterosexual identity, Model 7 and Model 8).

For gender of lifetime sexual partners, disability was associated with over twice the odds of reporting female and male lifetime sexual partners, relative to exclusively female partners (Model 9: OR 2.14, 95% CI 1.43-3.21), but disability did not appear to be associated with having exclusively male partners (Model 10: OR 0.62, 95% CI 0.24-1.60). Our sensitivity analysis, in which men with only one lifetime male or female partner (n=1,892) were excluded from the sample to make single-gender sexual partner categories more comparable to the 'sex with both males and females' category, yielded similar estimates. Likewise, our sensitivity analyses using three multinomial regressions (one for each multi-categorical dimension of sexual orientation) instead of 10 logistic regressions (one for each minority category of sexual attraction, sexual identity, and gender of sexual partners) also replicated findings.

[insert table 3]

Discussion

These results suggest that minority sexual orientations are more common among disabled men than non-disabled men. In our statistical models, estimated associations between disability and minority sexual orientations held after accounting for confounding factors including age, education, and socioeconomic status. We observed significant relative differences between disabled and non-disabled men for bisexual identity, multiple-gender sexual attractions, multiple-gender sexual partners, homosexual identity, and no sexual attraction. On the other hand, we found no meaningful associations between disability and exclusively same-gender attraction, unsure attraction, unsure or other sexual identity, and sex exclusively with males.

These population-based findings have policy relevance in Australia. The National Disability Strategy 2010-2020 sets an inclusive agenda, highlighting that disabled people have "specific needs, priorities and perspectives based on their personal circumstances, including… sex, age, sexuality, and ethnic or cultural background," (Commonwealth of Australia 2011, p. 14) and that these intersecting axes of identity must be considered for health and social programs to meet disabled peoples' needs. Results from our study provide information to inform such efforts by shining a light on the intersection of disability, male gender, and sexual orientation. Importantly, results show not only that sexual minority prevalence is higher among disabled men, but that the profile of minority sexual orientations differs between disabled and non-disabled men. These differences should be considered when developing resources and supports for sexual minority disabled men. Recently, Australia's National Disability Insurance Scheme (NDIS) unveiled a special project called Out Together which offers peer support to NDIS participants who identify as LGBTIQ+ (Wellways Australia 2018). Our finding that a large contingent of sexual minority disabled men does not explicitly identify as homosexual or bisexual is an important consideration

both for training peer support workers and engaging sexual minority NDIS participants in the network.

The results of this analysis are also important given the knowledge that both disability (Kavanagh *et al.* 2016a; Kavanagh *et al.* 2016b; Krahn *et al.* 2015) and minority sexual orientation (King *et al.* 2008; Pega *et al.* 2013; Mayer *et al.* 2008; Mollborn and Everett 2015) are independently associated with poorer physical and mental health outcomes than in the general population. These inequalities—and their underlying social and structural causes—may compound in people who are both sexual minorities and disabled (Fraley *et al.* 2007; Harley *et al.* 2002; Martino 2017; Noonan and Taylor Gomez 2010). It is feasible, for example, that sexual minority disabled people face barriers to accessing sexual health services and information, as well as receiving sex education that meets their needs, above and beyond those who are independently disabled or sexual minorities (Galea *et al.* 2004; Hillier *et al.* 2010). It is also plausible that because sexual minority disabled people are exposed to compounding stigma and discrimination (Martino 2017; Meekosha and Dowse 1997), they are in turn more susceptible to poor mental health (Khan *et al.* 2017). More research is needed to understand whether disadvantage multiplies in sexual minority disabled men as existing theory and empirical data suggest.

Being both disabled and a sexual minority may also confer benefits. This is particularly relevant to those who *identify* as both disabled and non-heterosexual. Identity can act as both a determinant of in-group membership and a prerequisite for accessing peer support, community-based services, and other resources that promote wellbeing. Additionally, and regardless of how they identify, sexual minority disabled men may be able to access a degree of sexual freedom, self-expression, or fluidity that is unavailable to those whose sexual orientation upholds masculine norms, as hegemonic masculinity privileges “able” bodies and minds and heterosexual expression

(Liddiard 2014; Shakespeare 1999; Shuttleworth 2012). Thus, being a disabled sexual minority male may carry with it a disruptive power that challenges hegemonic norms. This suggestion could be rephrased an empirical question for future study.

In this analysis, across all three dimensions of sexual orientation, "no attraction" (compared to attraction to females only) had the largest association with disability. The higher prevalence of disabled men reporting no sexual attraction could relate to having more limited opportunities to explore their sexuality than non-disabled men. This may be especially relevant for those with significant physical or intellectual limitations, as their privacy and autonomy can be constrained by their caregivers and environments (Fraley *et al.* 2007; Galea *et al.* 2004; Noonan and Taylor Gomez 2010). Men who recently acquired a disability may have been overrepresented in this category of sexual attraction, too. Disability acquisition can impact how men negotiate their sexualities and sexual relationships, which could lead to changes in sexual attraction or sexual identity that may change further over time (Field *et al.* 2013). As this analysis was cross-sectional we were unable to explore these possible transitions, though when future waves of Ten to Men data become available such transitions could be explored. Qualitative research would also be useful for gaining an in-depth understanding of interrelationships between experiences of disability, sexual attraction, and social and environmental factors.

Results from this analysis clearly demonstrate that, contrary to the myth that disabled people—here, disabled men—are asexual, they in fact embody a diverse range of sexual orientations. Because past and ongoing practices (e.g. forced sterilisation) have contravened the sexual rights of disabled persons and perpetuated stereotypes of asexuality, some factions of the disability community deny that asexuality is a legitimate sexual identity (Cuthbert 2016; Ruiz 2017). We recognise that there is nothing invalid about identifying as asexual, regardless of

disability status. Although "asexual" was not an available sexual identity category in Ten to Men, 2.1% of disabled participants identified as "other"—a category which plausibly included asexual but also other-identified respondents (e.g. pansexual, queer). This suggests that very few Australian disabled men probably identify as asexual.

Our study is limited by several factors. Because minority sexual orientations are uncommon, and disability prevalence in this sample was low, our estimates carry a high degree of uncertainty. The Washington Group Short Set questionnaire, used to classify disability in Ten to Men, generates lower prevalence estimates than other commonly-used disability measures because it identifies people whose activities are significantly impacted in a select six domains. The Washington Group Short Set has been criticised for excluding some disability types—particularly psychosocial disability (Groce and Mont 2017), which may be differentially more common among sexual minority men compared to their non-sexual minority counterparts (King *et al.* 2008). Even though some men with psychosocial disabilities would have been identified, such as those with concurrent non-psychosocial disabilities, it is possible that the (mostly) positive associations we observed in this study between disability and minority sexual orientations are conservative and underestimate true associations. In the context of this analysis it is also important to note that although the WG-SS is self-reported, it does not measure disability identity. It is possible that a more direct, identity-based disability measure would produce different results.

Another limitation is that the Ten to Men questionnaire is underpinned by an assumption that there are two genders. This left several sexual orientations unnamed in response options, making the categories "unsure" and "other" definitionally ambiguous. For instance, we cannot determine what identity category pansexual-identifying men would have selected, noting that

bisexuality can be defined as attraction to "both" genders but also as attraction to "the same" and "different" genders.

Also, coding gender of sexual partners presents comparability issues between so-called "behavioural bisexuality" and sexual partnerships exclusively with one gender (either all male or all female) (Bauer and Brennan 2013). To address this problem, we performed a sensitivity analysis using a 2-partner cut-off for all gender of sexual partner categories. This reduced sample size by over 10% but yielded almost identical estimates to those displayed in Table 3. Still, lifetime sexual behaviour is not a very informative way to describe this dimension of sexual orientation, given the potential fluidity of sexuality over time (Pega *et al.* 2013).

The fact that this was a cross-sectional analysis limits the information we can derive from our findings. For example, we are unable to differentiate between men with recently acquired disability and life-long or longer-term disability. However, because our sample was relatively young, we posit that many participants either had congenital impairments or acquired disability at a young age. Thus, our findings suggest that the positive associations we observed between disability and minority sexual orientations are not solely driven by sexual minority men who acquire disability later in life. In the future, multi-wave analyses of Ten to Men data will enable more meaningful exploration of disability and sexual orientation trajectories through the life-course.

Finally, there are some limitations with the Ten to Men survey. First, the sampling and survey methodology of Ten to Men excluded some disabled men, namely those living in residential care (because recruitment took place in private households) and men who did not have the supports or capacity to self-complete the written survey (Currier *et al.* 2016). This may have especially restricted the participation of men with intellectual disability, which leaves an important gap in

our findings. Previous research has highlighted that sexual minority people with intellectual disability are an underserved and often misunderstood sub-population (Abbott 2006; McCann *et al.* 2016; Stoffelen *et al.* 2012). Second, Ten to Men had a response fraction of 36% for adult males aged 18 to 55 years, which suggests that findings may not be truly representative of the Australian population (Currier *et al.* 2016). A comparison of the overall Ten to Men sample against 2011 Australian Census data (restricted to males aged 10 to 55 living in major cities and inner or outer regional areas) showed differences between Ten to Men participants and the general Australian population across several characteristics, including age, region of residence, country of birth, and relative disadvantage (Pirkis *et al.* 2017). These limitations should be considered when generalizing results to the Australian population.

Despite its limitations, this study has several strengths. For the first time in Australia, we present population-based, adjusted estimates for the relative prevalence of minority sexual orientation in adult disabled men compared to non-disabled men. Sexual orientation in Ten to Men was measured using three questions, enabling us to examine multiple dimensions. Our estimates include sexual orientation categories that are often unreported or combined. This provides an informative foundation for making services more inclusive of sexual minority disabled men and carrying out further research.

Conclusions

Results from this analysis of population-based data contribute to the limited existing evidence that several minority sexual orientations are more common in disabled men than in their non-disabled counterparts. Results also suggest sexual that sexual orientation patterns differently

in disabled versus non-disabled men—an important finding, given that people with different sexual orientations have different needs. This knowledge is critical to inform inclusive practices for health professionals and counsellors, sex educators, carers, and other providers of services to disabled men. Our findings also highlight the need for more research about sexual minority disabled people, as members of this group may be multiply marginalized. Where possible, future research at the intersection of disability and sexual minority status should be disaggregated by more sexual orientation categories than the sexual identity groups heterosexual, bisexual, and homosexual, as those who identify outside of these categories could be particularly disadvantaged. Further research is needed to understand the intersection of disability and sexuality and to identify the unique social and health needs of sexual minority disabled persons.

References

Abbott, D. 2006. Still off-limits? Staff views on supporting gay, lesbian and bisexual people with intellectual disabilities to develop sexual and intimate relationships. *Journal of Applied Research in Intellectual Disabilities* 20, no 2: 116-126.

Abbott, D. 2013. Nudge, nudge, wink, wink: Love, sex and gay men with intellectual disabilities – a helping hand or a human right? *Journal of Intellectual Disability Research* 57, no 11: 1079-1087.

Abbott, D. and J. Burns. 2007. What's love got to do with it? Experiences of lesbian, gay, and bisexual people with intellectual disabilities in the United Kingdom and views of the staff who support them. *Sexuality Research & Social Policy: A Journal of the NSRC* 4, no 1: 27-39.

Australian Bureau of Statistics (ABS). 2013. Census of population and housing: Socio-economic indexes for areas (SEIFA), Australia, 2011. Canberra.

Australian Bureau of Statistics (ABS). 2015a. Survey of disability, ageing and carers, Australia: Summary of findings. Canberra.

Australian Bureau of Statistics (ABS). 2015b. General social survey: Summary results, Australia, 2014. Canberra.

Bauer, G.R. and D.J. Brennan. 2013. The problem with 'behavioral bisexuality': Assessing sexual orientation in survey research. *Journal of Bisexuality* 13, no 2: 148-65.

Cambridge, P. and B. Mellan. 2000. Reconstructing the sexuality of men with learning disabilities: Empirical evidence and theoretical interpretations of need. *Disability & Society* no 15: 293-311.

Cheng, M.M. and J.R. Udry. 2002. Sexual behaviors of physically disabled adolescents in the United States. *The Journal of Adolescent Health* 31, no 1: 48-58.

Coleman, J.M., A.B. Brunell and I.M. Haugen. 2014. Multiple forms of prejudice: How gender and disability stereotypes influence judgments of disabled women and men. *Current Psychology* 34, no 1: 177-89.

Commonwealth of Australia. 2011. 2010-2020 National Disability Strategy: An initiative of the Council of Australian Governments. Canberra.

Currier, D., J. Pirkis, J. Carlin, L. Degenhardt, S.C. Dharmage, B. Giles-Corti, I. Gordon, L. Gurrin, J. Hocking, A. Kavanagh, L.A. Keogh, R. Koelmeyer, A.D. Lamontagne, M. Schlichthorst, G. Patton, L. Sanci, M.J. Spittal, D.M. Studdert, J. Williams and D.R. English. 2016. The Australian longitudinal study on male health-methods. *BMC Public Health* 16, no Suppl 3: 1030.

Currin, J.M., R.D. Hubach and H.C. Crethar. 2015. Multidimensional assessment of sexual orientation and childhood gender nonconformity: Implications for defining and classifying sexual/affectional orientations. *Journal of LGBT Issues in Counseling* 9, no 4: 240-55.

Cuthbert, K. 2016. You have to be normal to be abnormal: An empirically grounded exploration of the intersection of asexuality and disability. *Sociology* 51, no 2: 241-57.

Daley A., S. Solomon, P.A. Newman and F. Mishna. 2007. Traversing the margins: Intersectionalities in the bullying of lesbian, gay, bisexual and transgender youth. *Journal of Gay & Lesbian Social Services* 19: 3-4, 9-29.

Emlet, C.A. 2016. Social, economic, and health disparities among LGBT older adults. *Generations* 40, no 2: 16-22.

Field, N., C.H. Mercer, P. Sonnenberg, C. Tanton, S. Clifton, K.R. Mitchell, B. Erens, W. Macdowall, F. Wu, J. Datta, K.G. Jones, A. Stevens, P. Prah, A.J. Copas, A. Phelps, K. Wellings and A.M. Johnson. 2013. Associations between health and sexual lifestyles in Britain: Findings from the third national survey of sexual attitudes and lifestyles (Natsal-3). *The Lancet* 382, no 9907: 1830-44.

Fraley, S.S., L.R. Mona and P.S. Theodore. 2007. The sexual lives of lesbian, gay, and bisexual people with disabilities: Psychological perspectives. *Sexuality Research & Social Policy: Journal of NSRC* 4, no 1: 15-26.

Fredriksen-Goldsen, K.I., H.J. Kim, S.E. Barkan, A. Muraco and C.P. Hoy-Ellis. 2013. Health disparities among lesbian, gay, and bisexual older adults: Results from a population-based study. *The American Journal of Public Health*, no 10: 1802.

Fredriksen-Goldsen, K.I., H.J. Kim and S.E. Barkan. 2012. Disability among lesbian, gay, and bisexual adults: Disparities in prevalence and risk. *Am J Public Health* 102, no 1: e16-21.

Galea, J., J. Butler, T. Iacono and D. Leighton. 2004. The assessment of sexual knowledge in people with intellectual disability. *Journal of Intellectual and Developmental Disability* 29, no 4: 350-65.

Groce, N.E. and D. Mont. 2017. Counting disability: Emerging consensus on the Washington Group questionnaire. *The Lancet Global Health* 5, no 7: e649-e650.

Hankivsky, O., D. Grace, G. Hunting, M. Giesbrecht, A. Fridkin, S. Rudrum, O. Ferlatte and N. Clark. 2014. An intersectionality-based policy analysis framework: critical reflections on a methodology for advancing equity. *International Journal for Equity in Health* 13, no 1: 50-78.

Harley, D.A., T.M. Nowak, L.J. Gassaway and T.A. Savage. 2002. Lesbian, gay, bisexual, and transgender college students with disabilities: A look at multiple cultural minorities. *Psychology in the Schools* 39, no 5: 525-38.

Hillier, L., T. Jones, M. Monagle, N. Overton, L. Gahan, J. Blackman and A. Mitchell. 2010. Writing themselves in 3: The third national study on the sexual health and wellbeing of same sex attracted and gender questioning young people. Melbourne: Australian Research Centre in Sex, Health and Society, La Trobe University.

Kavanagh, A.M., Z. Aitken, E. Baker, A.D. Lamontagne, A. Milner and R. Bentley. 2016a. Housing tenure and affordability and mental health following disability acquisition in adulthood. *Social Science & Medicine* 151: 225-32.

Kavanagh, A.M., Z. Aitken, E. Emerson, S. Sahabandu, A. Milner, R. Bentley, A.D. Lamontagne, J. Pirkis and D. Studdert. 2016b. Inequalities in socio-economic characteristics and health and wellbeing of men with and without disabilities: A cross-sectional analysis of the baseline wave of the Australian longitudinal study on male health. *BMC Public Health* 16, no 3: 23-31.

Khan, M., M. Ilcisin and K. Saxton. 2017. Multifactorial discrimination as a fundamental cause of mental health inequities. *International Journal for Equity in Health* 16: 1-12.

King, M., J. Semlyen, S.S. Tai, H. Killaspy, D. Osborn, D. Popelyuk and I. Nazareth. 2008. A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. *BMC Psychiatry* 8, no 70.

Krahn, G.L., D.K. Walker and R. Correa-De-Araujo. 2015. Persons with disabilities as an unrecognized health disparity population. *American Journal Of Public Health* 105 Suppl 2: S198-S206.

Liddiard, K. The work of disabled identities in intimate relationships. 2014. *Disability & Society* no 1: 115-128.
Madans, J.H., M.E. Loeb and B.M. Altman. 2011. Measuring disability and monitoring the UN convention on the rights of persons with disabilities: The work of the Washington Group on disability statistics. *BMC Public Health* 11 Suppl 4: S4-S4.
Martino, A.S. 2017. Cripping sexualities: An analytic review of theoretical and empirical writing on the intersection of disabilities and sexualities. *Sociology Compass* 11, no 5: e12471.
Mayer, K.H., J.B. Bradford, H.J. Makadon, R. Stall, H. Goldhammer and S. Landers. 2008. Sexual and gender minority health: What we know and what needs to be done. *American Journal of Public Health* 98, no 6: 989-95.
McCann, E., R. Lee and M. Brown. 2016. The experiences and support needs of people with intellectual disabilities who identify as LGBT: A review of the literature. *Res Dev Disabil* no 57: 39-53.
Meekosha, H. and L. Dowse. 1997. Enabling citizenship: Gender, disability and citizenship in Australia. *Feminist Review*, no 57: 49-72.
Milligan, M.S. and A.H. Neufeldt. 2001. The myth of asexuality: A survey of social and empirical evidence. *Sexuality & Disability* 19, no 2: 91-109.
Mollborn, S. and B. Everett. 2015. Understanding the educational attainment of sexual minority women and men. *Research in Social Stratification and Mobility* 41: 40-55.
Natsal Study. 2010. The national survey of sexual attitudes and lifestyles (natsal-3 survey). London: University College London, London School of Hygiene & Tropical Medicine and NatCen Social Research.
Noonan, A. and M. Taylor Gomez. 2010. Who's missing? Awareness of lesbian, gay, bisexual and transgender people with intellectual disability. *Sexuality and Disability* 29, no 2: 175-80.
Oliver, M. 2013. The social model of disability: Thirty years on. *Disability & Society* 28, no 7: 1024-26.
Pega, F., A. Gray, J.F. Veale, D. Binson and R.L. Sell. 2013. Toward global comparability of sexual orientation data in official statistics: A conceptual framework of sexual orientation for health data collection in New Zealand's official statistics system. *J Environ Public Health* 2013: 473451.
Pirkis, J., D. Currier, J. Carlin, L. Degenhardt, S.C. Dharmage, B. Giles-Corti, I.R. Gordon, L.C. Gurrin, J.S. Hocking, A. Kavanagh, L. Keogh, R. Koelmeyer, A.D. Lamontagne, G. Patton, L. Sanci, M.J. Spittal, M. Schlichthorst, D. Studdert, J. Williams and D.R. English. 2017. Cohort profile: Ten to men (the Australian longitudinal study on male health). *International Journal of Epidemiology* 46, no 3: 793-94i.
Priebe, G. and C.G. Svedin. 2013. Operationalization of three dimensions of sexual orientation in a national survey of late adolescents. *J Sex Res* 50, no 8: 727-38.
Ruiz, F.J. 2017. The committee on the rights of persons with disabilities and its take on sexuality. *Reproductive Health Matters* 25, no 50: 92-103.
Saewyc, E.M., G.R. Bauer, C.L. Skay, L.H. Bearinger, M.D. Resnick, E. Reis and A. Murphy. 2004. Measuring sexual orientation in adolescent health surveys: Evaluation of eight school-based surveys. *Journal of Adolescent Health* 35, no 4: 345.e1-45.e15.
Shakespeare, T., D. Davies and K. Gillespie-Sells. 1996. *The sexual politics of disability : Untold desires*: London : Cassell, 1996.

Shakespeare, T. 1999. The sexual politics of disabled masculinity. *Sexuality and Disability* 17, no 1: 53-64.

Shakespeare, T. and S. Richardson. 2018. The sexual politics of disability, twenty years on. *Scandinavian Journal of Disability Research* 20, no 1: 82-91.Shuttleworth, R. and N. Wedgewood. 2012. The dilemma of disabled masculinity. *Men and Masculinities* 15, no 2: 174-194.

Smith, A., C. Rissel, J. Richters, A. Grulich and R. De Visser. 2003a. Sex in Australia: Summary findings of the Australian study of health and relationships: Australian Research Centre in Sex Health and Society, LaTrobe University.

Smith, A., C. Rissel, J. Richters, A. Grulich and R. De Visser. 2003b. Sex in Australia: The rationale and methods of the australian study of health and relationships. *Australian and New Zealand Journal of Public Health* 27, no 2: 106-117.

Spittal, M.J., J. Carlin, D. Currier, M. Downes, D.R. English, I.R. Gordon, J. Pirkis and L.C. Gurrin. 2016. The Australian longitudinal study on male health sampling design and survey weighting: Implications for analysis and interpretation of clustered data. *BMC Public Health* 16, no S3: 15-22.

Statacorp. 2017. Stata statistical software: Release 15. College Station, TX: StataCorp LLC.

Stoffelen, J., Kok, G., Hospers, H., and L.M.G. Curfs. 2012. Homosexuality among people with a mild intellectual disability: an explorative study on the lived experiences of homosexual people in the Netherlands with a mild intellectual disability. *Journal of Intellectual Disability Research* 57, no 3: 257-267.

Taleporos, G. and M.P. Mccabe. 2003. Relationships, sexuality and adjustment among people with physical disability. *Sexual and Relationship Therapy* 18, no 1: 25-43.

Wearing, M. 2010. Strengthening youth citizenship and social inclusion practice – The Australian case: Towards rights based and inclusive practice in services for marginalized young people. *Children and Youth Services Review.* 33, no 4: 534-540.

Wellways Australia. 2018. Innovative Workforce Fund: Final implementation and reflection report. Fairfield.

Wienholz, S., A. Seidel, M. Michel, M. Haeussler-Sczepan and S.G. Riedel-Heller. 2016. Sexual experiences of adolescents with and without disabilities: Results from a cross-sectional study. *Sexuality and Disability* 34, no 2: 171-82.

Wilson, N.J., J. Macdonald, B. Hayman, A.M. Bright, P. Frawley and G. Gallego. 2016. A narrative review of the literature about people with intellectual disability who identify as lesbian, gay, bisexual, transgender, intersex or questioning. *Journal of Intellectual Disabilities* 22, no 2: 171-196.