

Feeling queer and blue

A review of the literature on depression and related issues among gay, lesbian, bisexual and other homosexually active people



Full Report

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Glossary of Acronyms

ADDHealth	National Longitudinal Study of Adolescent Health
ALSHR	The Australian Longitudinal Study of Health and Relationships
ARCSHS	Australian Research Centre in Sex, Health and Society
ASHR	The Australian Study of Health and Relationships
BDI	Beck Depression Inventory
BSI	Brief Symptom Inventory
CES-D	Centre for Epidemiological Studies Depression Scale
CIDI	Composite International Diagnostic Interview
DSM	Diagnostic and Statistical Manual of Mental Disorders
EPDS	Edinburgh Postnatal Depression Scale
GHQ	General Health Questionnaire
GLB	Gay lesbian bisexual
GLBT	Gay lesbian bisexual transgender
GLBTI	Gay lesbian bisexual transgender intersex
GLBTS	Gay lesbian bisexual transgender same-sex attracted
GLBQ	Gay lesbian bisexual questioning
LGB	Lesbian gay bisexual
MACGLH	Ministerial Advisory Committee for Gay and Lesbian Health
MSM	Men who have sex with men
PRIME-MD	Primary Care Evaluation of Mental Disorders
SF-36	SF-36 General Health Scale
SSSH	The Secondary Students and Sexual Health study
STI	Sexually transmitted infection
WTIA	Writing Themselves In Again



Foreword

I am pleased to present this scoping study as an important contribution to addressing the risk factors for depression, anxiety and related disorders in the gay, lesbian and bisexual communities. As *beyondblue* heads into its third term to 2015, we are extending our research efforts to address and lessen the impact of depression and anxiety disorders throughout Australia. We are committed to addressing the burden of these common but disabling illnesses and the stigma that so often accompanies the illnesses.

To date, research findings on the prevalence of depression and anxiety and risk factors for gay, lesbian and bisexual communities has been inconsistent and no single nationwide study exists.

These issues – along with anecdotal reports of the high prevalence disorders and suicide risk – prompted a partnership between *beyondblue* and the Australian Research Centre in Sex, Health and Society at La Trobe University. We undertook a large-scale review of International and Australian reports published from 2000 to 2008. The following pages provide a more accurate reflection of the state of the mental health of non-heterosexual people in our community.

The results of this paper suggest that same-sex attracted young people, particularly women, are the group most susceptible to depression and suicide. Furthermore, those who identify as bisexual are at higher risk of developing mental health problems than gay and lesbian people.

We know that in many cases mental health problems in same-sex attracted people may be preventable. They are always treatable and effective treatments are now available. In addressing depression for non-heterosexual people, increased efforts are needed to combat discrimination in the general community and, as with everything *beyondblue* does, to reduce the stigma that so often prevents people from seeking and receiving the help they need.

beyondblue will use the results of this scoping study to commission further research which will aim to improve prevention, detection, diagnosis and treatment of mental health problems and reduce the associated stigma. We look forward to working with those who share our interest in this important area, opening eyes to depression across Australia.

A handwritten signature in black ink that reads "Leonie Young". The signature is written in a cursive style with a large, stylized "Y" at the end.

Leonie Young
***beyondblue* CEO**



Executive Summary

Introduction and terminology

There is a growing body of evidence, both international and Australian, to suggest that non-heterosexual people experience anxiety and depression at higher rates than their heterosexual peers and are at greater risk of suicide and self-harm. Yet, there has been little recognition of the implications of this for policy and practice. Contested debates on the influence of genes on sexual orientation aside, non-heterosexual people are not physiologically different from their heterosexual peers to all intents and purposes. However, they are likely to have different life experiences that contribute to at least two areas of particular need in relation to mental health and depression: managing the effects of homophobia and its consequences on a daily basis through the life course; and gaining access to mental health services that are able to respond to their needs in socially and culturally competent ways. The invisibility of these issues prompted the partnership between *beyondblue* and the Australian Research Centre in Sex, Health and Society (ARCSHS) at La Trobe University to undertake a systematic and targeted international literature review of the evidence base on depression and related issues among non-heterosexual people, published between the years 2000 and 2008. In addition, data from existing Australian studies undertaken by ARCSHS was analysed specifically to contribute to this paper. Difficulties were encountered in reviewing and exploring similarities and differences between empirical studies of non-heterosexual groups because of complex ways of measuring sexual orientation. Similar difficulties were encountered in an analysis of the varying ways of defining depression, its diverse forms and the different tools used to measure it. These are fully discussed in the primary report and decisions about terminology for this document have been made.

Prevalence: depressive symptoms and clinical depression in non-heterosexual people

In order to capture the potential variability between different groups, rates of depressive symptoms and clinical depression in non-heterosexual people were explored separately according to the following categories: (1) young people; (2) lesbian and other homosexually active women; (3) gay and other homosexually active men; (4) bisexual people; and (5) general gay/lesbian/bisexual (GLB) populations.

The literature on depressive symptoms in young people robustly shows that gay/lesbian and same-sex-attracted young people exhibit significantly more depressive symptoms than heterosexual and other-sex-attracted young people. This was consistently found across studies that sampled participants from the USA, Canada, New Zealand, the Netherlands, Hong Kong and Australia. For instance, in one international study (D'Augelli 2002), young GLB people aged between 14 and 21 scored significantly higher on the depression subscale of the Brief Symptom Inventory than a general comparison sample (1.22 vs. 0.82, $t = 8.62$, $p < .01$). The Australian studies conducted by ARCSHS gesture clearly in the same direction and, further, suggest that same-sex-attracted young people also suffer from poorer general health. In the Secondary Students and Sexual Health (SSSH) study, same-sex-attracted and both-sex-attracted students reported lower general health on the SF-36 General Health Scale than those who were attracted to the opposite sex only (63.1 vs. 70.5, $F_{1,2316} = 18.45$, $p < .001$). Both the international and Australian literature strongly suggests that both-sex-attracted and bisexual young people, and those questioning their sexual orientation, are also at higher risk of suffering depressive symptoms.

Lesbian and other homosexually active women consistently show higher rates of depression than heterosexual women; however, the literature showed mixed results in relation to prevalence time frame. Five studies (four conducted in the USA and one in the Netherlands) that measured past-year major depression indicated that while prevalence rates varied between 7.3 and 16.8 per cent among

heterosexual women, rates were higher for lesbian and other homosexually active women, ranging between 11.6 and 34.5 per cent. Nevertheless, three out of these five studies showed statistically insignificant results. The results for longer prevalence of major depression were much more robust. For instance, a longitudinal study conducted in New Zealand (Fergusson et al. 2005) showed that rates of major depression over a four-year period increased significantly according to increasing non-heterosexual identity. According to the findings, 41.6 per cent of predominantly homosexual women met criteria for major depression, compared with 32.7 per cent of predominantly heterosexual and 24.9 per cent of exclusively heterosexual women. Moreover, all the studies reviewed that measured lifetime prevalence of major depression showed significantly higher rates for lesbian and other homosexually active women when compared with heterosexual women. There is also evidence to suggest that rates of depression among lesbian and other homosexually active women vary according to age. In particular, younger and older lesbians appear to be at a higher risk of depression than mid-age lesbians.

There are few studies that address the issue of depression in non-heterosexual parents or parents-to-be, but there is some evidence to suggest that lesbian and bisexual biological mothers may be at higher risk for depression when compared with heterosexual biological mothers. In a study conducted in Canada, Ross et al. (2007b) found that lesbian/bisexual biological mothers had significantly higher depression scores on the Edinburgh Postnatal Depression Scale (EPDS) at 16 weeks postpartum than heterosexual biological mothers (7.39 vs. 4.91, $t = 2.03$, $p < .05$). Further, bisexual women's mean EPDS scores were significantly higher than those of lesbian respondents (8.82 vs. 5.62, $t = -2.41$, $p < 0.05$). There is little evidence to suggest that lesbian non-biological or pre-adoptive mothers are at a higher risk for depression. Nevertheless, it is probable that they are at least at the same risk for depression as their heterosexual counterparts and, further, the literature suggests that they may experience specific stressors related to their sexual orientation.

Similar to the literature on lesbian and other homosexually active women, studies on depression in gay and other homosexually active men show a trend toward higher rates of depression that also vary according to 12-month and longer prevalence time frames when compared with heterosexual men. Across four representative population studies, 12-month prevalence rates of major depression varied between 9.8 and 31 per cent for homosexually active men compared with rates between 3.9 and 10.2 per cent for heterosexual men. Three out of four of these studies showed significant differences between these two groups. Two other probability surveys support these results, showing significantly higher current and past-year depression in gay and other homosexually active men when compared with heterosexual men in the general population. The results for longer prevalence of depression were less consistent. Fergusson et al. (2005) found that over a four-year time period 75.5 per cent of predominantly homosexual men met criteria for major depression compared with 42.3 per cent of predominantly heterosexual and 14.2 per cent of exclusively heterosexual men. However, studies measuring lifetime prevalence of major depression show different results. Although gay and other homosexually active men still show higher lifetime prevalence rates of major depression than their heterosexual counterparts (15 per cent vs. 6.5 per cent in one study, and 29.3 per cent vs. 10.9 per cent in another study), these differences were not significant. It appears that the trend for significantly higher 12-month and non-significantly higher lifetime prevalence of depression in gay and other homosexually active men is the inverse of the trend identified in lesbian and other homosexually active women. Further, in relation to age, younger gay and homosexually active men appear to be at higher risk for 12-month prevalence of depression than their older counterparts.



Gay and other homosexually active men are in an HIV high-risk category, and thus it is important to examine how much depression in gay and other homosexually active men can be accounted for by HIV infection. Although HIV infection may lead to higher rates of depression and depressive symptoms in both heterosexual and non-heterosexual men, five international studies, conducted in the USA, the Netherlands and Australia, suggest that higher rates of depressive disorders in gay and other homosexually active men cannot be accounted for, entirely or largely, by HIV status. For instance, in one Australian study conducted in Adelaide, Rogers et al. (2003) found that in a sample of 460 gay and homosexually active men (35 per cent of whom were HIV-positive), 28 per cent met the criteria for current major depression and this rate was exactly the same for HIV-positive and HIV-negative men. Nevertheless, one ARCSHS study did find a significant difference in depressive symptoms between HIV-positive and HIV-negative same-sex-attracted men, highlighting the need for additional research in this area.

There is a pervasive tendency in the literature to exclude bisexual people or to obscure them by collapsing bisexual samples into gay, lesbian or same-sex-attracted categories. The studies that did explore bisexual people separately from homosexual people consistently showed that bisexuals have higher rates of depression or depressive symptoms than heterosexual people and, further, in some cases are at the same or even higher risk of depression than homosexuals. In an important study that analysed data from the *Australian Longitudinal Study on Women's Health*, McNair et al. (2005) found that in a cohort of women aged 22 to 27 years, bisexual women showed consistently poorer mental health outcomes than exclusively heterosexual, bisexual and exclusively/mainly homosexual women on almost all measures. Further, in a cohort of women aged 50 to 55, mainly heterosexual women had the poorest mental health outcomes on *all* measures when compared with women in any other group. In another Australian study conducted in Canberra, Jorm et al. (2002) sampled both men and women and found that the bisexual group had significantly higher depressive symptom scores than the homosexual group which, in turn, had significantly higher depressive symptoms scores than the heterosexual group (respectively: 3.93 vs. 2.93 vs. 2.62, $p < .001$). These results are strongly confirmed by the ARCSHS studies. For instance, in the *Writing Themselves in Again* study (Hillier et al. 2005), young bisexual people were significantly more likely than homosexual respondents to report dissatisfaction with both themselves (23.3 per cent vs. 14.5 per cent, $z = 4.02$, $p < .001$) and their lives (17.2 per cent vs. 6.7 per cent, $z = 6.26$, $p < .001$). Overall, the literature suggests that higher rates of depression in non-heterosexual people may be slightly inflated due to even higher rates of depressive symptoms in bisexuals.

The literature that samples general GLB populations confirms the various trends that have been identified above. In particular, the studies reviewed point toward higher rates of depressive symptoms and poorer mental and physical health in non-heterosexual people when compared with heterosexual people. For instance, a key finding, extracted from the Australian Bureau of Statistics (2008) *National Survey of Mental Health and Wellbeing*, conducted in 2007, shows that homosexual/bisexual respondents had higher levels of affective disorders (which include bipolar disorder, major depression and dysthymia) than heterosexual respondents (19.2 per cent vs. 6 per cent). The literature on GLB populations (predominantly the ARCSHS studies) also confirms the findings reported above that show even poorer mental health outcomes for bisexuals.

Risk and protective factors for depression in non-heterosexual people

The literature on risk and protective factors for depression in non-heterosexual people was reviewed to explore the various psychosocial processes that make non-heterosexual people more vulnerable to depression. A key problem identified in the literature was a lack of research methodologies that allowed

for the identification of causal factors for depression in non-heterosexual people. Several studies included multivariate analysis and correlation analysis, both of which can establish an association or relationship between variables, but neither can establish causality.

Being in a relationship appears to be a significant protective factor, both for non-heterosexual women and men. For instance, in one Canadian study, Ayala and Coleman (2000) found that mean depressive symptom scores were significantly lower for lesbians in a relationship when compared with those not in a relationship (23.88 vs. 33.02, $t = 2.95$, $p < .01$). However, it is important to keep in mind that relationship status also appears to be an influential variable for heterosexual people. Further, the results of some studies suggested that higher rates of depressive symptoms in non-heterosexual people persisted after factoring in demographic variables such as relationship status. Thus, not being in a romantic relationship is probably only one small part of the puzzle.

Residential context (living in metropolitan, suburban or rural areas) predicts depressive symptoms in some non-heterosexual samples, particularly when factoring in other variables such as sex. Two studies suggested that non-heterosexual young people (particularly young women) and HIV-positive gay/bisexual men are more vulnerable to depression when living in rural or suburban contexts rather than metropolitan ones. In the ARCSHS *Private Lives* study (Pitts et al. 2006), GLB people living in rural/remote areas were more likely than those in metropolitan areas to report feeling depressed on more than half the days in the past two years (39.2 per cent vs. 31.8 per cent, $\chi^2(1) = 13.95$, $p < .001$) and were more likely to contemplate self-harm or feel they were 'better off dead' (21.0 per cent vs. 14.2 per cent, $\chi^2(1) = 20.52$, $p < .001$). The data on bisexuals is inconclusive. While one study suggested that both-sex-attracted young women living in non-metropolitan contexts may be at even higher risk for depression, the *Private Lives* data did not show the same pattern for bisexual respondents.

Social support from peers, friends and family emerges as a fairly robust protective factor against depressive symptoms in most non-heterosexual samples. Poor peer and family relationships predict increased levels of depressive symptoms in young people in general, and since non-heterosexual young people have poorer relationships with their peers and families they typically have significantly more depressive symptoms than heterosexual or other-sex-attracted young people. It appears that for lesbians support from friends, particularly lesbian friends, is a stronger protective factor against depressive symptoms than family support. For instance, Oetjen and Rothblum (2000) found that in a sample of lesbian women, while lower depressive symptom scores were significantly correlated with both perceived social support from friends ($r^2 = -.301$, $p < .0001$) and perceived social support from family ($r^2 = -.244$, $p < .01$), the former relationship was much stronger. There is some evidence to suggest that bisexual people may receive less social support than both heterosexuals and homosexuals, which may contribute to their consistently poorer mental health outcomes in the literature.

Feeling like one belongs to a community is a protective factor against depression in both heterosexual and non-heterosexual people; however, in some studies non-heterosexual people reported lower sense of belonging to the general community than heterosexuals and this leads to significantly more depressive symptoms. A series of publications based on research conducted in Victoria, Australia, suggest that this is true for both gay men and lesbian women. For instance, McLaren et al. (2007) found that across a sample of gay and heterosexual men, feeling a sense of belonging to the general community was associated with fewer depressive symptoms and, further, heterosexual identity was associated with feeling a stronger sense of belonging ($r = -.30$, $p < .001$) and less depressive symptoms ($r = -.21$, $p < .001$). Feeling a sense of belonging to the GLB community or participating in GLB community organisations also appears to be

an important protective factor against symptoms of depression in GLB people, particularly gay men. For instance, in the ARCSHS *Private Lives* study (Pitts et al. 2006), respondents who rated themselves as either 'somewhat', 'rarely' or 'not at all' connected to the GLBTI community were more likely than those reporting stronger connection to the community to have felt little interest or pleasure in doing things (35.6 per cent vs. 23.6 per cent, $\chi^2(1) = 69.81$, $p < .001$) and to have felt down, depressed or hopeless (44.0 per cent vs. 32.7 per cent, $\chi^2(1) = 55.7$, $p < .001$) in the two weeks prior to being interviewed.

The literature that examines disclosure of sexual orientation and its effects on depressive symptoms reveals contradictory results. Some studies show no relationship between these two variables, while others suggest that disclosure of one's sexual orientation to family and friends predicts fewer depressive symptoms. In a study conducted in the USA, Lewis et al. (2001) found that depressive symptom scores were associated with degree of sexual orientation disclosure, such that gay men and lesbians who carefully concealed their sexual orientation had the highest depressive symptom scores (mean = 25.81) and those who were extremely open about their sexual orientation had the lowest depressive symptom scores (mean = 16.87). It is possible that disclosing one's sexual identity may be a protective factor for depressive symptoms by lowering sense of isolation from the GLB community. On the other hand, concealing one's sexual identity might also be a coping mechanism, or even a protective factor against depressive symptoms, by allowing non-heterosexual people to avoid discrimination, victimisation and stigmatisation.

Non-heterosexual young people appear to be at particularly high risk of having experiences of victimisation. In an international sample, D'Augelli (2002) found disturbingly high rates of victimisation among non-heterosexual young people. For example, 81 per cent of the sample had been the victims of verbal abuse because of their sexual orientation. Further, 15 per cent had suffered serious physical assault and 16 per cent had been the victims of sexual assault. In the ARCSHS study *Writing Themselves In Again* (Hillier et al. 2005), a substantial number of young non-heterosexual people reported experiencing either verbal (44 per cent) or physical abuse (16 per cent). Moreover, a history of verbal, sexual and/or physical victimisation and abuse appears to be associated with higher levels of depressive symptoms in non-heterosexual people. In a sample of gay men and lesbian women in the USA, Lewis et al. (2001) found that higher depressive symptom scores were significantly associated with threats and experiences of violence and harassment due to sexual orientation ($r = .29$, $p < .01$). There is evidence to suggest that same-sex-attracted younger gay men are subjected more frequently to physical violence than their female counterparts; further, fear and experiences of anti-gay violence in adulthood are particularly strong predictors of depressive symptoms in gay and other homosexually active men.

In relation to the impact of stigma and discrimination, the literature suggests that depressive symptoms in non-heterosexual people are associated with both 'distal' discriminatory events (that is, objective social acts or events in which non-heterosexual people are subjected to prejudice and discrimination), and 'proximal' processes (which include the subjective interpretation of discriminatory events, and the internalisation of discrimination and negative stereotypes). All the studies that measured 'distal' events showed that discrimination based on sexual orientation was associated with higher rates of depressive symptoms. For instance, Lewis et al. (2001) found that general discrimination, which included lack of access to mental health, housing and social services because of sexual orientation was significantly associated with higher depressive symptom scores ($r = .19$, $p < .01$). Work discrimination (which included actual and potential job loss) because of sexual orientation was also significantly associated with higher depressive symptom scores ($r = .21$, $p < .01$). The literature on 'proximal' processes focuses predominantly on the effects of 'internalised homophobia', and suggests that the internalisation of negative stereotypes associated with non-heterosexual orientation is associated with more depressive symptoms. It is interesting to note that

overall, the literature on 'proximal' processes greatly outnumbers the literature on discriminatory acts and events, reflecting an overall tendency to reflect the focus back onto the psyches of non-heterosexual people themselves rather than exploring the social root of the problem—stigma and homophobia.

Interventions

The literature points towards a strong tendency for non-heterosexual people to exhibit higher rates of depression and depressive symptoms than heterosexual people. Further, there is evidence of a variety of potential risk factors for depression among non-heterosexual people. Several studies that explored these risk factors noted the potential for interventions that could lead to the improvement of mental health indicators in non-heterosexual people. Nevertheless, there were only two intervention studies that targeted depression in these people. These studies certainly appear to suggest that psychosocial interventions that draw from cognitive behavioural therapy models, or that aim to increase social support for participants, may be effective in reducing depressive symptoms in non-heterosexual people. For instance, Vincke and Van Heeringen (2002) found that among GLB young people who participated in GLB holiday camps in Belgium, increased confidant support as a result of the camp was significantly associated with lower depressive symptom scores ($B = -0.25, p < .01$). Curiously, there were no social intervention studies that targeted social processes such as victimisation, homophobia, and discrimination: the probable root of poor mental health in non-heterosexual people.

Outcomes of depression in non-heterosexual people

Just as it is difficult to determine a causal link between depression and certain risk factors for depression, it is equally difficult to establish outcomes of depression due to a lack of appropriate research methodologies. Thus, it was difficult to determine whether depression was the cause or consequence of behaviours often connected to poor mental health. Nevertheless, the literature appears to suggest that depression is linked to three key outcomes among non-heterosexual people: sexual risk; alcohol and drug use; and suicidal behaviours.

Although depression and depressive symptoms in gay and other homosexually active men have been consistently associated with high-risk sexual behaviours in the literature, this review found mixed results. In two out of the four studies that measured both depression and sexual risk, unprotected anal intercourse among gay and other homosexually active men was not associated with depressive symptoms. However, the other two studies appear to suggest a connection between sexual risk and depression. Interestingly, Rogers et al. (2003) found that among a sample of South Australian homosexually active men, unprotected anal intercourse was not significantly associated with major depression but, rather, with dysthymia only. Twenty-nine per cent of the sample suffering from dysthymia had engaged in unprotected anal sex in the past six months compared with 15 per cent of those not suffering from a dysthymic disorder. Nevertheless, the results of this study do not support an overall relationship between depressive disorders and high-risk sexual behaviours.

Although non-heterosexual people (both men and women) tend to have higher rates of alcohol and drug use and dependency than heterosexual people, these differences are not always significant; however, there appears to be a more robust tendency for bisexuals to suffer from substance use and dependency disorders. Meyer et al. (2008) found that 51.4 per cent of bisexuals compared with 35.5 per cent of lesbians and gay men met the criteria for lifetime prevalence of any substance use disorder. There is also evidence that alcohol and drug misuse is associated with high rates of depressive symptoms, particularly in non-heterosexual women. Bostwick et al. (2005) found that, after adjusting for potentially confounding

demographic variables, past-year depression significantly predicted past-year alcohol dependence among lesbians (OR = 2.03, $p < .01$). The literature suggests that substance use may be a coping strategy to deal with the stress related to living in homophobic environments.

Depression has been recognised as an important predictor of suicidal behaviour (e.g. suicidal thoughts, plans and attempts) in heterosexual populations and the same pattern is true for non-heterosexual people, particularly for same-sex attracted young people. Further, it appears that higher prevalence rates of depression and depressive symptoms in non-heterosexual people are likely to predict higher rates of suicidal behaviour in this population when compared with heterosexual people; however, these findings are not always significant. In line with bisexual people's consistently poor mental health outcomes, bisexuals appeared to be at the same or higher risk for suicidal behaviour than homosexuals. For instance, McNair et al. (2005) found that in a cohort of 22 to 27 year-old Australian women, rates of feeling that life in the last week had not been worth living elevated according to ascending non-heterosexual identity. Further, mainly heterosexual (11.1 per cent), bisexual (18.7 per cent) and exclusively/mainly homosexual (17.3 per cent) women were significantly more likely to report either harming or attempting to kill themselves in the last six months compared with exclusively heterosexual women (2.7 per cent). McNair et al. found that in a mid-aged cohort (50 to 55 years), bisexual women had the highest rates of having had attempted suicide in the last six months (16.1 per cent compared with 0.8 per cent of exclusively heterosexual women, 4 per cent of mainly heterosexual women, and 2 per cent of exclusively/mainly homosexual women). Few studies explored the relationship between depression and suicide; however, the results of these studies show a strong link between these two variables. For instance, Botnick et al. (2002) found that in a sample of gay and other homosexually active men, depressive symptom scores were significantly higher for gay and other homosexually active men who had attempted suicide compared with those who had not (14 vs. 12, $p < .001$). Further, men who had attempted suicide were significantly more likely than those who had not to have been diagnosed with a mood disorder such as major depression.

Conclusions

A large majority of non-heterosexual people do not suffer from depression or any other mental disorder; however, most of the studies reviewed indicated a higher risk for depression, and various outcomes associated with it, in non-heterosexual people. The results of this literature review point to strong trends towards higher rates of depression, more depressive symptoms, and poorer mental health outcomes for non-heterosexual people when compared with heterosexual people. Young non-heterosexual people clearly show significantly higher prevalence of depressive symptoms than their heterosexual counterparts. The literature also points to alarming rates of abuse and victimisation of young non-heterosexual people and, further, significantly higher rates of suicidal behaviour when compared with heterosexual young people. Although the results are less consistent for gay, lesbian and other homosexually active adult women and men, the data are still compelling. The theme that runs throughout this review is the effects of homophobia and heterosexism on the mental health of non-heterosexual people. In many ways, this points to a burden of poor mental health that may well be entirely preventable. In addressing depression for non-heterosexual people, the most effective response will be to institute measures to combat homophobia and discrimination in the general community and seek to level out many of the differences documented in this report.

1. Introduction: Depression in Non-Heterosexual People

There is a growing body of evidence, both international and Australian, to suggest that non-heterosexual people experience anxiety and depression at higher rates than do their heterosexual peers and are at greater risk of suicide and self-harm.¹ Yet, there has been little recognition of the implications of this for policy and practice. Contested debates on the influence of genes on sexual orientation aside, non-heterosexual people are not physiologically different from their heterosexual peers to all intents and purposes. However, they are likely to have different life experiences that contribute to at least two areas of particular need in relation to mental health and depression: managing the effects of homophobia and its consequences on a daily basis through the life course; gaining access to mental health services that are able to respond to their needs in socially and culturally competent ways.

The particular mental health issues for gay, lesbian, bisexual, transgender and intersex (GLBTI²) people have had some recognition in Victoria through the work of the Ministerial Advisory Committee for Gay and Lesbian Health (MACGLH). In 2002, a commissioned discussion paper, *What's the Difference: Health issues of major concern to GLBTI Victorians* (Leonard 2002), found widespread evidence of mental health problems in this population and noted that stressful life events, including the experience of discrimination and abuse, are associated with the onset of mental disorders. Leonard also found evidence of under-use of mainstream mental health services by GLBTI people. The MACGLH action plan, *Health and Sexual Diversity: A health and well-being action plan for GLBTI Victorians* (Leonard 2003), which was launched by the Victorian Health Minister, made a number of recommendations related to the awareness-raising among, and education for, mainstream service providers to improve GLBTI access. In addition, that report outlined a number of strategies designed to reduce homophobia and its effects on GLBTI people. These initiatives were intended to work towards better mental health outcomes for gay, lesbian, bisexual, transgender and intersex people.

However, the recent Victorian consultation paper *Because Mental Health Matters: A new focus for mental health and well-being in Victoria* (Department of Human Services [DHS] 2008) did not mention the need to address the particular needs of GLBTI people. This is indicative of the lack of a readily available evidence base to inform such discussions. As data on sexual orientation are not currently collected in the Australian Census or the National Health Survey, it is easy for policy makers and practitioners to assume that non-heterosexual people have no particular issues and can be treated adequately in the same way as heterosexual people. When such data have been collected, e.g. in the *Australian Longitudinal Study of Women's Health* (McNair et al. 2005), they have provided clear evidence of differences in health outcomes. It is this invisibility that prompted the partnership between *beyondblue* and the Australian Research Centre in Sex, Health and Society (ARCSHS) at La Trobe University to develop this paper reviewing the evidence base on depression and related issues among non-heterosexual people.

1 We are using 'non-heterosexual people' here as a generic term for an aggregate of sexual minority subpopulations. This review focuses primarily on those specific subpopulations.

2 Although we included transgender people in the initial review process, we excluded analysis of transgender people from this report. This was done for a number of reasons; primarily, in order to avoid conflating sexuality with gender identity, given the focus of the report was on the former. Further, given the results of previous research that indicate the specificity of the experiences of transgender people when compared with the experiences of non-heterosexual people, we did not want to risk obscuring the complexities associated with mental health issues among transgender people. We excluded intersex people from the review for similar reasons.

The task undertaken was a targeted literature review of both the international and Australian literature from the last eight years, taking into account 'grey' literature, on the following questions:

- Is there evidence of high rates of depression and their consequences experienced by non-heterosexual people?
- Is there evidence that these rates are higher than in the general population?
- What evidence is there of both the causes and effects of depression in non-heterosexual people?

The development of the review was supervised by a working group of ARCSHS senior staff: the Director, Professor Marian Pitts, the Deputy Director, Professor Gary Dowsett, the Director of Gay and Lesbian Health Victoria, Associate Professor Anne Mitchell, and Senior Research Fellow, Dr Lynne Hillier. Research Officer, Julianne Corboz, had major carriage of the review process itself, assisted by Senior Research Fellow, Murray Couch, and Research Fellow, Paul Agius.

1.1 Review methodology

A systematic search was conducted of five databases: Medline, Current Contents, PsycINFO, CINAHL and Sociological Abstracts. The search terms were selected according to two primary domains: 'depression', and 'sexual orientation'. In the first domain, the search term 'mental' was included to capture keywords such as 'mental health' and 'mental disorder', and the search term 'depression' was truncated (depress*) to capture keywords such as 'depressive symptoms' and 'depressive disorder'. In the second domain, the search terms 'gay', 'lesbian', 'bisexual*', 'transgender*', 'transsex*', 'queer', 'same-sex attract*', 'homosexual*', 'GLB*' (gay, lesbian, bisexual), and 'MSM' (men who have sex with men) were included.³ The search terms were crossed in both domains and this strategy was applied across all five databases.⁴ Searches were limited to titles, abstracts and keywords, to studies published in English, to human beings, and to an eight-year limit (between 2000 and 2008). All references were exported into an Endnote library and duplicates, non-published works such as theses and conference papers, and publications with no listed authors were deleted. This left a library of 1,806 references.

In order to identify the central studies to be reviewed, the abstracts of all 1,806 references were read and each was coded as core, peripheral, or irrelevant, according to the following criteria.

1. Core studies were those in which depression was a thematic focus, and which sampled gay, lesbian, bisexual, transgender or same-sex-attracted (GLBTS) people, either as the central sample group or with a comparison heterosexual sample.
2. Peripheral studies were those that sampled GLBTS people but which only explored depression peripherally; for instance, as one measure out of many, where the primary thematic focus was not related to depression or depressive symptoms. Those articles were also classed as peripheral that contained the two thematic domains but which had no outcome data (such as editorial reviews and opinion pieces), or which presented individual clinical case studies or autobiographical reports.

3 As noted in the introduction, although 'transgender' and 'transsex*' were included as search terms in the initial review process, we excluded analysis of transgender people from this report.

4 (depress* OR mental) AND (gay OR lesbian* OR bisexual* OR queer OR transgender* OR transsex* OR homosexual* OR same-sex attract* OR GLB OR MSM).

3. Irrelevant studies were those that were related to only one out of the two thematic domains, or neither of these domains. Some studies sampled GLBTS people but did not explore depression, while others were related to depression but did not sample GLBTS people.⁵

Three hundred and sixty-nine (369) studies were identified as core and these were further coded for the following information: study dates; location; setting for data collection; sample; sample size; age group; type of study; thematic focus; measures used. These studies were then assessed in further detail to identify those that addressed the three key research questions. In a preliminary analysis, 197 studies were removed from the core list as they contained no outcome data, or because depression or sexual orientation was thematically peripheral. In many of these cases, GLBTS people (mostly gay men) were sampled in studies on depression in HIV-positive people where sexual orientation was seemingly linked to the ease of sampling gay men (given their higher rates of HIV infection) but not a central variable or measure in itself.

In a secondary analysis, 172 references were removed from the core list as a substantial number treated depression as peripheral, despite the abstract mentioning depression as a central topic of interest or as a primary measure, or depression being listed as a keyword. Also, a variety of quantitative studies relied on non-specific, non-standardised measures of depression. For instance, several studies utilised emotive experiences such as 'feeling bad' (Abelson et al. 2006), 'negative mood' or having 'sad or depressed mood' (Diaz et al. 2001; Skegg et al. 2003) as measures of depression or psychological distress without employing a standardised measure of depression. Other studies (e.g. Barney 2003; Matthews et al. 2002) were interested in depression or depressive symptoms but did not use a standardised scale of depression. In the majority of these cases, the main problem with measuring depression was the researchers' reliance on participants' subjective interpretations of what depression is. For instance, Udry and Chantala (2002) measured depression by asking respondents one question: 'During the past week, how often did you feel depressed?' One of the primary issues here is the lack of clear definitions of depression. Depression appears as a vague, emotive state or experience associated with feeling 'bad' or in 'distress'; yet few studies specify what they are referring to when they say that somebody is depressed. This issue will be discussed in section 1.3 later.

A further 113 studies were excluded as these treated depression as a peripheral theme, used non-standardised measures of depression (except for qualitative studies), or they subsumed depression under other primary categories of analysis.⁶ Several studies based on representative population samples were included that did not focus specifically on depression, but which measured depression separately from a variety of other psychiatric/mental disorders. Several studies were also included in which depression was not the primary variable measured but was treated as a key variable for exploring either risk factors for depression (e.g. discrimination and victimisation) or outcomes of depression (e.g. suicidal behaviour). Studies were excluded that had small sample sizes (i.e. total GLBTS sample size of less than 50) except for those that sampled very specific and harder-to-reach populations such as non-heterosexual parents and adoptive couples, or those studies that might typically have smaller sample sizes (e.g. qualitative studies and small-group intervention studies).

⁵ For instance, one study about depression and bipolar disorder, when discussing the brain, mistakenly listed 'gay matter' instead of 'gray matter'. Further, a number of studies concerned non-humans, an outcome of the limitation of databases that do not allow restricting searches to human or non-human subjects.

⁶ Please note that although we applied these criteria to the inclusion of studies in the international review, we did not apply such criteria to our review of data available in studies reported from ARCSHS's research program.

This left in total 59 studies central to this review. Of these, 54 were empirical, three were literature reviews (one of which incorporated a meta-analysis), and two were intervention studies. It is interesting to note that despite relaxing the criteria in relation to qualitative studies, only one qualitative study made it through the review eligibility process—a clear gap in the research literature in understanding the depth and complexity of GLBTS experiences and the social determinants of GLBTS depression and other mental health disorders. Several qualitative studies were identified that focused on developmental issues and mental health concerns for GLBTS people; however, depression consistently appeared as a peripheral issue, as one subsumed under mental health more generally (Peterson and Rischar 2000; Ross et al. 2005) or was largely absent (Guarnero 2007; Scourfield et al. 2008). There was also a dearth of theoretical literature relating specifically to depression in GLBTS people. The exception was a literature review and meta-analysis by Meyer (2003), which provided a theoretical review of minority stress models in GLBTS research.

Surprisingly, few intervention studies aimed at reducing levels of depression in GLBTS people were found.⁷ There were, however, plenty of intervention studies on stress management in HIV-positive people (Antoni et al. 2000; Antoni et al. 2005; Antoni et al. 2006; Carrico et al. 2005; Carrico et al. 2006; Cruess et al. 2000a; Cruess et al. 2000b; Cruess et al. 2002; Molassiotis et al. 2002), AIDS-related bereavement (Ghebremichael et al. 2006; Hansen et al. 2006), amphetamine use in gay men (Jaffe et al. 2007; Peck et al. 2005), and the effects of these interventions on levels of depression. These interventions, however, did not appear to be interested in sexual orientation per se. Rather, they appeared to be sampling GLBTS people (mainly gay or bisexual men), consistent with the tendency, previously noted, to study gay men due to their rates of HIV infection and, further, their supposed preponderance for high-risk behaviours. Thus, rather than aiming to reduce depression in GLBTS people, these interventions appeared to be more concerned with reducing depression in HIV-positive people, people experiencing AIDS-related bereavement, and people with drug- or substance-related addictions.

In relation to sample sizes, seven studies with small GLBTS samples (below 50) were retained: one was an intervention study; one was a qualitative study; two studies sampled lesbian parents and parents to be (i.e. pregnant women, biological and non-biological mothers, and pre-adoptive couples); and three sampled transgender persons. Eleven studies had large non-exclusively heterosexual sample sizes that included 500 or more participants. The majority of the studies (38) had medium-sized GLBTS samples (between 51 and 499). It is important to note, however, that several of these studies collapsed non-heterosexual groups in order to increase statistical power. For instance, several studies collapsed gay or lesbian sub-samples with bisexual sub-samples, or men or women with only same-sex sexual partners with those with both-sex sexual partners (e.g. Cochran et al. 2000a; Cochran et al. 2000b; Cochran et al. 2003; Gilman et al. 2001; Sandfort et al. 2001; Smith and Ingram 2004; Ullrich et al. 2002). Although some samples were larger than 100, individual sub-samples (e.g. of gay men, lesbian women, bisexual men or women, homosexually active men or women, bisexually active men or women) were often small.

Of the empirical and intervention studies, the majority were conducted in the United States of America (thirty-four), while six were conducted in Canada, seven in Australia and New Zealand, two in Asia (South Korea and Hong Kong), and six in Western Europe (Switzerland, the Netherlands, Belgium and the United Kingdom). In relation to sampling frames, there were 12 representative studies (seven population-based, two community-based, and four school-based), six of which were longitudinal. There were four probability-based studies (two household-based, and two venue-based), six clinical studies (one of which consisted of a cluster of clinical trials), and two cohort studies (one longitudinal birth cohort, and one

7 Note that Vincke and Van Heeringen published successive results of their intervention study. In this review, we cite on only one publication (Vincke and Van Heeringen 2002) as it reported more detailed findings on the interaction between depression and other key variables.

large-scale nurses cohort). In line with the difficulties associated with sampling hidden populations, the most popular sampling technique was convenience sampling (28 studies, two of which were school-based and 26 of which were community-based), wherein participants were typically recruited from GLBTS organisations, agencies, events, festivals, support groups, bars, and internet websites. Four studies used both clinical and convenience sampling frames.

In relation to the kinds of comparators employed in the studies selected for review, 27 studies compared GLBTS samples with heterosexual samples, either from corresponding representative population studies, or from matched heterosexual controls. Most of these studies also did comparative analyses based on gender such that it was possible to explore how sexual orientation and gender interacted and affected rates of depression. Five studies did not use heterosexual samples or control groups, but compared rates of depression in GLBTS people with rates in the general population. The possible limitations of such an approach are evident in one study in particular (Rogers et al. 2003), which drew from a clinical cohort of homosexually active men, 35 per cent of whom were HIV-positive. After exploring varying rates of depression within the sample, based on HIV status, Rogers et al. then compared these rates with those found in community surveys of the general population (which, of course, has much lower rates of HIV infection). Twenty-three studies did not make any comparisons between GLBTS samples and heterosexual populations as they were interested in examining the variability within GLBTS groups, or identifying particular risk and protective factors for depression or mental disorder in GLBTS people. It must be asked how it would be possible to know that these risk and protective factors are specific to GLBTS people without a comparison with a heterosexual sample? Two uncontrolled intervention studies also lacked comparison groups, begging the question whether group interventions would be any more effective in GLBTS people than in heterosexual people.

1.2 Measuring sexual orientation

Reviewing and exploring similarities and differences between empirical studies of non-heterosexual groups becomes quite complex when confronted with the variety of different ways of measuring sexual orientation. Terms such as homosexual, gay, lesbian, bisexual, queer, men who have sex with men, women who have sex with women, same-sex-attracted, and both-sex-attracted, do not simply refer to a range of different identities, behaviours and attractions; rather, they form a basis of particular ways of defining people and the subsequent epistemologies, or knowledge systems, used to categorise these people. Before progressing to an analysis of the 59 key review articles, it is important to summarise how these studies have chosen to measure sexual orientation, and the methodological strengths and limitations of these choices.

Of the studies that measured sexual orientation based on self-identification, several included a question designed to identify participants as heterosexual, homosexual (gay or lesbian) or bisexual (Case et al. 2004; Cochran et al. 2003; Smith and Ingram 2004; Ullrich et al. 2002; Williams et al. 2005), or predominantly heterosexual, homosexual or bisexual (Jorm et al. 2002; McClaren 2006; McClaren et al. 2007; McClaren et al. 2008). Five studies (Cooperman et al. 2003; D'Augelli 2002; McNair et al. 2005; Oetjen and Rothblum 2000; Silenzio et al. 2007) aimed to capture more complex levels of self-identification by exploring how people situated themselves between categories. For instance, McNair et al. (2005) asked women to identify their sexual orientation as exclusively heterosexual, mainly heterosexual, bisexual, mainly lesbian/homosexual, or exclusively lesbian/homosexual. A number of studies (Cooperman et al. 2003; Igartua et al. 2003; Oetjen and Rothblum 2000) measured sexual orientation on a five or seven point scale that identified participants somewhere on a continuum from exclusively heterosexual to exclusively homosexual. D'Augelli (2002) gave respondents four choices in

relation to self-identification: (1) gay or lesbian; (2) bisexual but mostly gay or lesbian; (3) bisexual but equally gay or lesbian; or (4) heterosexual. However, D'Augelli (2002) curiously collapsed gays/lesbians and bisexuals for analysis despite the two bisexual groups combined comprising 26 per cent of the sample. Even more problematically, Silenzio et al. (2007) formed their LGB sub-sample based on those who identified as exclusively homosexual, mostly homosexual, or bisexual, and placed those participants who identified as exclusively heterosexual, mainly heterosexual or not sexually attracted either to males or females into a non-LGB sub-sample!

Some studies did not determine the self-identified sexual orientation of research participants through a particular measure included in questionnaires but, rather, had done so through pre data-collection screening (Bostwick et al. 2005; Botnick et al. 2002; Ross et al. 2007a) or recruitment advertising (Ross et al. 2007b). These studies mostly recruited participants from community settings and were interested in researching single sexual orientation groups such as lesbian women, gay men, or GLB or GLBT individuals, rather than comparing different sexual orientation groups. Several studies (Ayala and Coleman 2000; Gold et al. 2007; Lewis et al. 2001; Lewis et al. 2003; Luhtanen 2003; Meyer et al. 2008; Ramirez-Valles et al. 2005; Vincke and Van Heeringen 2002; Westefeld et al. 2001; Zakalik and Wei 2006) also recruited participants from community settings and analysed single samples (gay, lesbian or GLB); however, many of these studies were not clear about how sexual identity was in fact measured. They did not explain whether gay, lesbian or bisexual identity was determined via direct questioning or simply through assumption (i.e. that those who frequent GLB community settings, groups, events and websites must necessarily identify as gay, lesbian or bisexual).

There are several problems associated with measuring sexual orientation simply based on self-identification. For instance, Consolacion et al. (2004) observe the limitations of studies that draw from community-based convenience samples, thus including those who identify as GLB but excluding same-sex-attracted people or those who engage in same-sex sexual behaviour who do not identify as GLB. Another issue of concern is the exclusion of people who may be unsure of their sexual identity and, thus, who may be in a process of questioning their sexual orientation. Several studies that measured only sexual identity (Jorm et al. 2002; McClaren 2006; McNair et al. 2005; Williams et al. 2005) allowed a response of 'don't know', 'not sure', or 'questioning sexual orientation'. In most of these cases, 'unsure' participants were excluded from analysis. Only Williams et al. (2005) analysed 'questioning' young people separately from gay-, lesbian- or bisexual-identified young people.

Several studies included in this review measured sexual orientation based on sexual behaviour. Two of these studies sampled MSM (Perdue et al. 2003) or homosexually active men (Rogers et al. 2003), the former directly assessing potential participants during community sampling (presumably through asking men if they had sex with men, although this is not explicitly stated), and the latter drawing from data on a clinical cohort in which the homosexual activity of participants was known. The other studies used specific measures as they were all population-based studies interested in exploring differences between sexual orientation groups. These studies typically asked questions about research participants' male or female sexual partners in which participants would indicate whether they had had other-sex sexual partners only, any same-sex sexual partners, or no sexual partners, in a particular time frame: either in the last 12 months (Cochran and Mays 2000b; Sandfort et al. 2001), in the last five years (Gilman et al. 2001), or in one's lifetime (Cochran and Mays 2000a). One study (Valanis et al. 2000) measured post-menopausal women's sexual behaviour over their lifetimes and also after the age of 45, separating women into five groups: heterosexual women; bisexual women; lifetime lesbians; adult lesbians (i.e. became lesbians after 45 years of age); and women who had not had sex as an adult.

Although measuring sexual behaviour may increase the likelihood of identifying harder-to-reach, same-sex-attracted, sexually active populations that do not identify as GLB or do not have access to the GLB community, it is not without its methodological problems. As Meyer (2003) notes, population-based surveys such as the ones described here are not designed with the intention of measuring psychiatric morbidity in non-heterosexual populations and, therefore, do not have well-developed measures of sexual orientation. One problem that can arise is misclassification of participants, wherein women or men are classified as gay/lesbian/homosexual based only on their sexual behaviour (Cochran and Mays 2000a), which may lead to selection bias: for instance, over-representation of people who are distressed by their sexuality and, consequently, who may exhibit higher rates of psychiatric morbidity (Meyer 2003). Another issue of concern is how sexual behaviour is defined and understood by research participants. For instance, Gilman et al. (2001) determined same-sex or other-sex sexual behaviour by questioning participants whether they had had 'sexual intercourse' only, rather than any form of sexual activity or relations. People who had had sexual partners but who did not have intercourse may have inadvertently been excluded from the study.

There are other problems with measuring sexual behaviour related to the variety of time frames used to determine same-sex sexual behaviour (i.e. 12 months, five years, or one's lifetime). Indeed, making comparisons between different data sets can become difficult given that sexual behaviour can be fluid and change over time. There is also the issue of excluding people from analysis based on their sexual inactivity in a given time frame (e.g. in the last 12 months). Whether studies analyse those sexually inactive participants (e.g. Cochran and Mays 2000a; Valanis et al. 2000) or exclude them from the analysis (e.g. Cochran and Mays 2000b; Gilman et al. 2001), it is still probable that a proportion are same-sex- or both-sex-attracted or identify as gay, lesbian or bisexual. Thus, as Cochran and Mays (2000b) suggest, researchers might be discarding significant data from people who identify as GLB or who are same-sex-attracted, but who did not have sex in the previous year.

The issue of unintentionally discarding data based on measuring recent sexual activity is particularly pertinent when sampling young people. Indeed, many young people may not have yet engaged in sexual activity and, further, may still be in the process of negotiating and defining their sexual identity. Thus, measuring same-sex attraction is an important way of capturing the experiences of young non-heterosexual people, particularly those who have not yet adopted a specific sexual identity.⁸ It is not surprising that the five studies included in the international review that measured romantic/sexual attraction all sampled young people (Bos et al. 2008; Consolacion et al. 2004; Galliher et al. 2004; Lam et al. 2004; Russell and Joyner 2001⁹). These studies mostly determined whether young people were attracted to young women or young men and, in some cases, whether they were also attracted to both sexes or not sure of their attraction. Nevertheless, much like the literature on homosexually active people, in these studies there was a tendency to collapse respondents into either same-sex-attracted or other-sex-attracted categories regardless of any variation.

There is a shortage of research that measures sexual orientation in diverse ways (i.e. identity, behaviour and attraction), partly due to limited theoretical understandings of sexuality, and also because small sample sizes reduce the possibility of exploring differences between non-heterosexuals (Consolacion et al. 2004). By measuring sexual identity, behaviour and attraction, it is possible to capture people who are not sexually active but who identify as gay, lesbian, bisexual, or who are same-sex-attracted (Mills et al.

⁸ This method of measuring sexual orientation in young people has gained particular prominence in Australian studies throughout the last decade (see for example Hillier et al. 1996; Hillier et al. 1998; Hillier et al. 2005).

⁹ Russell and Joyner (2001) also measured whether young people had had romantic relationships with somebody of their own sex.

2004). Further, it is possible to explore whether self-identification as gay, lesbian or bisexual is a protective factor for mental disorder or psychological distress for those people who engage in same-sex sexual behaviour or who are same-sex-attracted (Gilman et al. 2001).

Six studies (Cochran et al. 2007; Huebner et al. 2005; Mays et al. 2003; Mills et al. 2004; Wang et al. 2007; Yoshikawa et al. 2004¹⁰) were reviewed that measured both sexual behaviour and identity. One study (Szymanski et al. 2001) measured both sexual attraction and identity, and one study (Fergusson et al. 2005) measured identity, behaviour and attraction.¹¹ Most of these studies, however, employed multiple measures of sexual orientation in order to capture broader and larger samples rather than to explore, in any meaningful way, the differences in levels of depression within non-heterosexual groups based on identity, behaviour or attraction. Although Fergusson et al. (2005) did explore how identity, behaviour and attraction changed over time (the study was longitudinal), they did not explore how these related to levels of depression. Rather, in order to explore depression, they collapsed participants into 'exclusively heterosexual', 'predominantly heterosexual', and 'predominantly homosexual' categories for analysis. Only two studies (Cochran et al. 2007; Mills et al. 2004) did comparative analyses of depression rates within non-heterosexual samples based on either self-identification or sexual behaviour.

The majority of studies included in this review collapsed participants into firm categories for data analysis, regardless of the method employed for measuring sexual orientation, and regardless of participants' descriptions of their own identities, behaviours and attractions. On the one hand, Bostwick et al. (2005) included bisexual women, queer women, and those who did not want to be labelled, into their sample of lesbian women. On the other hand, many studies excluded data from those participants who did not fit neatly into categories such as homosexual, gay, lesbian, or same-sex-attracted. Bisexual or both-sex-attracted men and women were often either collapsed into gay or lesbian sub-samples, or were excluded from analysis. Those people who were unsure of or questioning their sexual orientation were almost always excluded.

1.2.1 A note on terminology

Our standard generic term for the populations being reported on here will be 'non-heterosexual'. In this report, to assist with clarity, we are also adopting the phrases 'lesbian and other homosexually active women' and 'gay and other homosexually active men', as the standard phrases used when describing by sex the non-heterosexual research populations of studies. Where studies use 'gay men' or 'lesbians' specifically to refer to those people who have adopted that sexual identity, we will use those terms. Where studies adopt other terms referring to different populations, such as 'bisexual', or 'mainly heterosexual', or 'predominantly homosexual,' we will use these terms when they are clearly meant to refer to these populations. Where studies use phrases such as 'gay/bisexual' men or 'men who have sex with men' or 'women who have sex with women' or variants of these—i.e. essentially collapsed categories—we will use our standard phrases noted above. We will use the acronym GLB (gay, lesbian, bisexual) when this is used in specific studies, unless there is reason either to shorten the acronym or adopt other versions of it (e.g. LGBTQ) according to the studies mentioned. Due to our exclusion of intersex and transgender people in the analysis of this review, we only refer to populations as GLBTI or GLBT when samples aggregate transgender and/or intersex people and non-heterosexual people.

10 Yoshikawa et al. (2004) did not measure identity *and* sexual behaviour in one sample of men but, rather, drew from two existing data sets, one that measured identity and another that measured sexual behaviour.

11 Note that these studies suffer from the same sorts of problems as those studies that measure only sexual behaviour, in relation to different time frames for sexual activity: in these cases, ever having had same-sex sexual activity (Fergusson et al. 2005; Mays et al. 2003; Mills et al. 2004; Wang et al. 2007), or same-sex sexual activity in the past 12 months (Cochran et al. 2007; Huebner et al. 2005).

1.3 Defining and measuring depression

Just as reviewing studies of non-heterosexual people requires an analysis of how sexual orientation is defined and measured, it is also important to outline some of the difficulties encountered in comparing studies, given the varying ways of defining depression, its diverse forms and the different tools used to measure it. As noted earlier in the review methodology section, quantitative studies were excluded that did not use a standardised scale or measure of depression and that relied on people's subjective interpretations of their own depressive states. This does not mean, however, that those studies that did use standardised scales were easily comparable or even clearly defined what depression is or is not. Authors referred to 'depression', 'depressed mood', 'depressive symptoms', 'depressive distress', 'risk of depression', 'non-clinical depression', 'non-psychotic depression', 'clinical depression', 'psychotic depression', 'major depressive disorder', and 'dysthymia'. Several studies used a variety of these terms interchangeably. Thus, making direct comparisons between studies can become highly problematic when it is unclear what is actually being compared: an emotional state; a mood; a cluster of symptoms; or a clinical diagnosis.

Only one study included in this review gave an explicit definition of depression and the variety of different types of depression. Drawing from DSM-IV criteria, Rogers et al. (2003: 272) defined a major depressive disorder as 'the experience, for the period of at least two weeks, of significantly depressed mood, or reduced interest or pleasure, accompanied by a minimum of four other specified symptoms', and defined dysthymic disorder as 'a less intense, but chronic form of depression that is diagnosed when a person has experienced depressed mood for the majority of time over two years'. Rogers et al. went on to note the possibility of a diagnosis of 'double depression' (where a major depressive episode occurs in somebody with dysthymic disorder) and stated that diagnoses of major depression, dysthymia or double depression 'require that the disturbance has significantly impaired the subject's functioning while it has been present'.

Comparing studies of depression is further complicated by the different tools used to measure depression. Some studies measured 'non-clinical' or 'non-psychotic' depression, 'dysphoric mood', 'depressed mood', or 'depressive symptomatology' through a variety of standardised scales such as: the Generalised Contentment Scale (Ayala and Coleman 2000); the depression subscale of the Goldberg Anxiety and Depression scales (Jorm et al. 2002); the Zung Self-Rating Depression Scale (Szymanski et al. 2001); the depression subscale of the Depression Anxiety Stress Scales (McClaren 2006; McClaren et al. 2007; McClaren et al. 2008; Zakalik and Wei 2006); the Hospital Anxiety Depression Scale (Megeri and Khoosal 2007); the depression subscale of the General Health Questionnaire (Bos et al. 2008; Ross et al. 2007a; Vincke and Van Heeringen 2002); the depression subscale of the Brief Symptom Inventory (D'Augelli 2002), the Hamilton Rating Scale for Depression (Ross et al. 2007a); the mental health scale of the Medical Outcomes Study Short Form (Case et al. 2004); or one of the various versions of the Beck Depression Inventory (Gold et al. 2007; Huebner et al. 2005; Igartua et al. 2003; Megeri and Khoosal 2007; Ramirez-Valles et al. 2005; Ross et al. 2007a; Westefeld et al. 2001; Williams et al. 2005).

The most popular scale used to measure non-clinical depression was the Center for Epidemiological Studies Depression Scale (CES-D), but there were various ways in which this scale was used.¹² For instance, several studies used a measure derived from, or a shortened version of, the 20-item CES-D (Botnick et al. 2002; Consolacion et al. 2004; Galliher et al. 2004; Lam et al. 2004; McNair et al. 2005; Russell and Joyner 2001; Silenzio et al. 2007; Valanis et al. 2000; Zakalik and Wei 2006). Further, Oetjen

¹² The Center for Epidemiologic Studies Depression Scale is a unidimensional measure comprising 20 items with possible scores ranging from 0 to 30.

and Rothblum (2000) note that the CES-D is not a reliable measure of depression over long periods of time as it only measures short-term prevalence of depressive symptoms (which, in the studies reviewed, ranged from between one week and three months, depending on the study in question). According to Mills et al. (2004), as a result, the CES-D may in fact be detecting symptoms of dysthymic disorder or a bipolar depressive episode, thus inflating prevalence rates of major depression.

One of the major problems with comparing different studies that use the CES-D is the different cut-off points used to indicate risk for clinical depression. While some studies (Clements-Nolle et al. 2006; Cooperman et al. 2003; Mays et al. 2003; Oetjen and Rothblum 2000; Perdue et al. 2003; Ullrich et al. 2002) used a standard cut-off score of 16 (i.e. 16 and above) to indicate the presence of depression or risk for clinical depression in non-heterosexual groups, other studies (Mills et al. 2004; Yoshikawa et al. 2004) used a more conservative cut-off of 23 (i.e. 23 and above). In these last two studies, scores of 16 or above were believed to indicate 'distress' or risk for clinical depression, while scores of 23 and above were believed to indicate major depression or high risk for major depression. One study (Luhtanen 2003) used none of these cut-offs but, rather, averaged CES-D scores with scale scores between one and four, creating a cut-off of two to indicate risk for clinical depression. Some studies did not use a cut-off score but, rather, directly compared CES-D depressive symptom scores (Frost 2007; Golberg and Smith 2008; Lewis et al. 2001; Lewis et al. 2003; McNair et al. 2005; Smith and Ingram 2004).

Some authors (Cochran et al. 2007; Kerr and Emerson 2003) have noted that, although depressive symptoms or psychological distress may be correlated with a depressive disorder, the former do not necessarily lead to the latter. Indeed, in a literature review of depression and anxiety in lesbians, Kerr and Emerson (2003: 146) noted that one of the complications involved in contrasting studies on depression is 'distinguishing between symptoms of depression and a cluster of symptoms, or syndrome, that suggests the presence of a DSM diagnosis of a depressive disorder'. Further, as noted above, standardised scales of non-clinical depression may not be sensitive enough to differentiate between different types of depression (i.e. major depressive disorder or dysthymic disorder).

Diagnostic interviews that assess mental disorders based on DSM criteria are not exempt from methodological issues that make it difficult to compare studies of clinical depression. The studies selected for this review used a variety of different interview schedules such as: the Diagnostic Interview Schedule (Bostwick et al. 2005; Cochran and Mays 2000a), the Composite International Diagnostic Interview (CIDI) (Fergusson et al. 2005; Wang et al. 2007; Sandfort et al. 2001), and the World Health Organization (WHO) World Mental Health Survey Initiative of the CIDI (Cochran et al. 2007; Meyer et al. 2008). Further, two studies used a shortened version of the CIDI (Cochran et al. 2003; Gilman et al. 2001), and one study admitted to measuring 'probable cases' of psychiatric disorder without drawing 'strictly' from DSM criteria (Cochran and Mays 2000b: 517). Rogers et al. (2003) used the Primary Care Evaluation of Mental Disorders (PRIME-MD); however, although the PRIME-MD has been validated in the USA in primary care samples, Rogers et al. noted that it has not been validated for homosexually active men in the USA, and has not been validated at all in Australia.

To make things more complicated, different studies make clinical diagnoses based on different versions of the DSM: DSM-III (Bostwick et al 2005; Cochran and Mays 2000a), DSM-III-R (Cochran et al. 2003; Gilman et al. 2001; Sandfort et al. 2001), or DSM-IV (Cochran et al. 2007; Fergusson et al. 2005; Meyer et al. 2008; Rogers et al. 2003; Wang et al. 2007). Further, these studies used DSM criteria to make diagnoses of either 12-month prevalence of psychiatric disorders (Cochran and Mays 2000b; Cochran et al. 2003; Wang et al. 2007), lifetime prevalence (Cochran and Mays 2000a; Meyer et al. 2008), both

12-month and lifetime prevalence (Sandfort et al. 2001; Bostwick et al. 2005; Cochran et al. 2007; Gilman et al. 2001), or prevalence in a specific time period, such as between the ages of 21 and 25 in a longitudinal birth cohort (Fergusson et al. 2005).

In pursuit of clarity, in this review we refer to 'depressive symptoms' or 'risk for depression' whenever describing studies that measure depression through standardised scales but that do not use a diagnostic interview based on DSM criteria, and we refer to 'major depression' or 'dysthymia' when referring to DSM-based, clinical, depressive disorders.



2. Prevalence: Depressive Symptoms and Clinical Depression in Non-Heterosexual People

In this section, rates of depressive symptoms and clinical depression in non-heterosexual people are reviewed. In order to capture the potential variability between different groups, this section is divided initially according to age and then sex. The following categories are explored separately: (1) young people; (2) lesbian and other homosexually active women; (3) gay and other homosexually active men; (4) bisexual people; and (5) general GLB populations. Particular attention is paid to comparative studies that explore different rates of depression between non-heterosexual people, and heterosexuals or general population samples. We draw minimally from non-comparative studies that focus on risk and protective factors for depression.

In the various sections below, findings will be presented first from the literature review, followed by findings, where applicable, from studies undertaken by ARCSHS of non-heterosexual populations, sometimes as GLB or same-sex-attracted specific studies, or as subsamples of larger general population studies. Where possible, comparisons with heterosexual or both-sex-attracted populations will be made. These ARCSHS studies were not designed to measure depression specifically, but asked a variety of questions related to health and well-being, and offer only some indication of possible depression experiences and their like in Australia. Other published Australian findings are included in the international review sections. Briefly, we summarise these ARCSHS studies here and refer to them by their titles only in the various sections that follow.

- The *Secondary Students and Sexual Health* (SSSH) study is a nationally representative cross-sectional study, repeated periodically. The study explores the sexual behaviour, health and knowledge of year 10 and year 12 students (median age: 16 years) in government, independent and catholic school sectors. The survey is a self-completed instrument administered in exam-like conditions in class rooms. The 2002 study is the most recent administration, with 2,388 students completing the survey (see Smith et al. 2003). A new 2008 administration is under way.
- The *Writing Themselves In Again* (WTIA) study surveyed 1,749 same-sex-attracted young people aged between 14 and 21 (median: 18 years) in 2004 on issues pertaining to sexuality, health and well-being (see Hillier et al. 2005). WTIA is a national cross-sectional convenience study repeated every six years (see Hillier et al. 1998 for the first *Writing Themselves In* study), and the survey instrument used both internet and hard-copy self-completion modes. The study will be repeated as *Writing Themselves In 3* in 2009.
- The *Private Lives* study, undertaken in 2005, was designed to explore the health and well-being of GLBTI people in Australia (see Pitts et al. 2006). The sample comprised 5,476 people aged between 16 and 92 years of age (median: 33 years). The survey instrument was administered via the internet and employed a convenience sample approach.
- The *Australian Study of Health and Relationships* (ASHR) was a nationally representative survey of 19,307 people aged between 16 and 59 years (median: 38), conducted between 2001 and 2002. The survey was administered by telephone interview and designed to explore a wide range of issues pertaining to sexual, reproductive and general health.

- The *Australian Longitudinal Study of Health and Relationships* (ALSHR) is a nationally representative longitudinal study focusing on people's reproductive and sexual health behaviours and attitudes, relationship formation, health status, and behaviour. The first wave of the study was conducted in 2005 with 8,656 respondents. Data were collected by telephone interview. The median age of participants in the ALSHR study at first wave was 42 years.

2.1 Young people

Seven studies analysed prevalence of depressive symptoms in young people, three of which drew from the same longitudinal, school-based representative study of young people in grades seven to 12 (Consolacion et al. 2004; Galliher et al. 2004; Russell and Joyner 2001), one community-based representative study (Lam et al. 2004), and three convenience studies (Bos et al. 2008; D'Augelli 2002; Williams et al. 2005), two of which were school-based. None of the studies measured clinical depression according to DSM criteria. It is important to note that although the four representative studies used (or analysed existing data sets that used) the CES-D to measure depression, the other three convenience studies used different measures of depression, making comparisons between studies problematic.

Russell and Joyner (2001) analysed data from wave one of the National Longitudinal Study of Adolescent Health (ADDHealth) in the USA (participants were aged between ten and 20), while Galliher et al. (2004) analysed wave two data (participants were aged between 11 and 21), and Consolacion et al. (2004) analysed both waves one and two. All three studies were interested in exploring different variables affecting young people, such as risk factors for suicidal behaviour (Russell and Joyner 2001), mental health outcomes for gender, sexual and ethnic minority young people (Consolacion et al. 2004), and how school belonging, self-esteem and depressive symptoms interact for same-sex-attracted, other-sex-attracted and both-sex-attracted young people (Galliher et al. 2004).¹³ Measuring depression through a scale derived from the CES-D, all three studies found that same-sex-attracted young people reported significantly higher levels of depressive symptoms than other-sex-attracted young people.

This result was consistent in all studies reviewed; however, the relationship between depressive symptoms and sexual orientation did vary across studies according to other factors such as sex and ethnicity. Bos et al. (2008) analysed data from a school-based convenience study of 866 young people aged between 13 and 15, sampled from four high schools in The Netherlands, in which 74 young people reported having same-sex attraction. Bos et al. found that same-sex-attracted young people had significantly higher levels of depressive symptoms than other-sex-attracted young people as measured on the depression scale of the General Health Questionnaire (GHQ). They also found that, overall, young women were significantly more likely to report depressive symptoms than young men; however, for same-sex-attracted young people, there was no difference in depressive symptoms between the men and the women. It is important to note, however, that there were many more same-sex-attracted young women (N=50) than men (N=24) in the sample.

Williams et al. (2005) found similar results in the data they analysed from a school-based convenience study of 1,598 young people in five high schools in a south central Canadian city. Rather than measuring sexual or romantic attraction, this study asked respondents to identify their sexual orientation as heterosexual, gay/lesbian, bisexual, or questioning. A total of 97 young people identified as non-heterosexual: eight as gay or lesbian, 36 as bisexual, and 53 as questioning.¹⁴ Williams et al. found that non-heterosexual young people had significantly higher depressive symptom scores on the Beck

¹³ Note that the authors collapsed same-sex- and both-sex-attracted young people.

¹⁴ Williams et al. (2008) collapsed gay/lesbian and bisexual young people in their analysis.

Depression Inventory (BDI) than heterosexual young people in a matched comparison group. Like the Bos et al. (2008) study, Williams et al. found that, although sex and sexual orientation independently predicted depressive symptoms, the two did not interact such that same-sex-attracted young women did not have significantly higher depressive symptom scores than same-sex-attracted young men.

D'Augelli (2002) conducted a convenience study of 542 self-identified, young GLB people aged between 14 and 21, recruited from community settings in the USA, Canada and New Zealand. D'Augelli found that, according to the depression subscale of the Brief Symptom Inventory (BSI), gay/bisexual young men and lesbian/bisexual young women both reported significantly more depressive symptoms than their heterosexual counterparts. Like the studies described above, D'Augelli found that gay/bisexual young people did not differ from lesbian/bisexual young people in rates of depressive symptoms. However, unlike the studies described above, D'Augelli found that young men and women in the heterosexual comparison group did not have differing rates of depressive symptoms either.

It is clear that same-sex-attracted young people show significantly higher rates of depressive symptoms than heterosexual young people, although rates of depression within the former group do not appear to differ according to sex. These results become more complex when both sex and ethnicity are factored into the equation. Consolacion et al. (2004) found that same-sex-attracted young people reported higher levels of depressive symptoms than other-sex-attracted young people within almost all ethnic groups in the USA.¹⁵ Nevertheless, the interaction between sex and sexual orientation differed across ethnic groups suggesting that ethnicity and sex, as well as sexual orientation, might be strong predictors of depression in young people.

There was only one study that explored bisexual or both-sex-attracted young people separately from gay/lesbian or same-sex-attracted young people. Galliher et al. (2004) found that both-sex-attracted young people had significantly more symptoms of depression than other-sex-attracted young people, but they found no significant difference in levels of depressive symptoms between same-sex- and both-sex-attracted young people. They did find, however, that both-sex-attracted young people scored significantly worse on overall psychosocial well-being. There were no additional findings on bisexual or both-sex-attracted young people. Indeed, although several of the studies mentioned in this section (e.g. Consolacion et al. 2004; D'Augelli et al. 2002; Williams et al. 2005) allowed for classification of participants as both-sex-attracted or bisexual, they tended to collapse both-sex-attracted young people into same-sex-attracted groups in their analysis. In the case of the D'Augelli study, the combined two bisexual groups comprised 26 per cent of the sample (approximately 141 young people). In the Williams et al. (2005) study, the bisexual group (N=36) was much larger than the gay/lesbian group (N=8).

Although bisexual or both-sex-attracted young people are largely absent from the literature, two studies did include findings on young people who were unsure of or questioning their sexual orientation. For instance, although Williams et al. (2005) largely made comparisons between non-heterosexual young people (which included gay, lesbian, bisexual and questioning young people) and heterosexual young people, they also listed findings separately for young people questioning their sexual orientation (which is not surprising as questioning young people comprised the largest non-heterosexual subsample). Depressive symptom scores for questioning young people rated in between the GLB and heterosexual groups, being closer to the former.

¹⁵ The exception was in the case of Asian-Pacific Islanders.

This trend is consistent with the findings reported by Lam et al. (2004) in a representative community sample of 1,024 young men and 1,403 young women between the ages of 14 and 18 living in Hong Kong. Lam et al. noted that young people in Hong Kong report very low rates of sexual activity compared with countries such as the USA and, consequently, asked young people a less-specific question in order to pick up on both attraction and behaviour, i.e. 'Have you ever experienced homosexual tendencies?' Lam et al. found significant differences in depressive symptoms measured with the CES-D between three groups of young people: those with no same-sex attraction; those with same-sex attraction; those who were not sure.¹⁶ Same-sex-attracted young people showed more symptoms of depression than either of the other two groups, with no same-sex-attracted young people scoring the least number of depressive symptoms, and those young people not sure of their sexual attraction rating in between. Further, same-sex-attracted young women appeared to suffer the highest rates of depressive symptoms.

2.1.1 Australian studies on same-sex-attracted young people

The Australian data are not conclusive but gesture strongly in the same direction. Both the *Secondary Students and Sexual Health* (SSSH) and *Writing Themselves In Again* (WTIA) studies included questions addressing the general and mental health of same-sex-attracted young people. In the 2002 SSSH study, the SF-36 General Health Scale was used to measure students' self-reported general health.¹⁷ On average, Australian same-sex-attracted students (including students reporting attraction to both sexes) had significantly lower self-reported general health than those who were attracted to the opposite sex only (63.1 vs. 70.5, $F_{1,2316} = 18.45$, $p < .001$). Of those students in the sample who reported non-heterosexual attraction (5.6 per cent), the vast majority (88.1 per cent) were attracted to people of both sexes. In the WTIA study, amongst other questions, respondents were asked to rate their level of satisfaction with their lives and how they felt about themselves. Although the majority expressed satisfaction ('extremely happy' or 'pleased' or 'mostly satisfied') with both their own life and themselves, a significant proportion also reported 'mixed' feelings (24.1 per cent and 30.9 per cent respectively) and dissatisfaction ('terrible' or 'unhappy' or 'mostly dissatisfied') with these parts of their lives (9.2 per cent and 16.7 per cent respectively).

2.1.2 Summary on young people

The literature on depressive symptoms in young people shows a robust tendency for gay/lesbian and same-sex-attracted young people to exhibit significantly more depressive symptoms than heterosexual and other-sex-attracted young people. The relationship between depression and sexual orientation, however, appears to change according to various demographic factors such as sex and ethnicity. Further, there is evidence to suggest that both-sex-attracted young people and those questioning their sexual orientation are also at risk for depressive symptoms; however, very limited findings addressing depression in these subpopulations were found. The Australian studies described here also suggest that same-sex attracted young people have poorer general health than other-sex attracted young people and, further, may experience similar mental health difficulties as same-sex attracted young people in other countries.

¹⁶ Lam et al. (2004) do not list sample numbers for these categories.

¹⁷ The SF-36 General Health Scale is a five-item uni-dimensional scale that, when re-scored, yields respondent scores ranging from 0 to 100 (Ware et al. 1994).



2.2 Lesbian and other homosexually active women

The prevalence rates of past-year or lifetime depression for lesbian and other homosexually active women vary enormously depending on the use of different research methodologies and demographic factors of the participants in question (particularly age and ethnicity). Indeed, in the studies reviewed, prevalence rates of past-year depression in lesbian and other homosexually active women ranged from between 9.8 per cent to 38 per cent, while lifetime depression rates ranged from 24.7 per cent to 57 per cent.

There were few data collected on prevalence of past-year and lifetime dysthymia. Only two studies (Gilman et al. 2001; Sandfort et al. 2001) measured dysthymia in lesbian and other homosexually active women, and one study (Cochran et al. 2007) referred to 'any depressive disorder', i.e. collapsing major depression and dysthymia into one analytic category. Most of the studies reviewed did a comparative analysis of depression rates between homosexually active women and heterosexual women and were based on representative population samples, and most also measured clinical depression according to DSM criteria.

Cochran and Mays (2000b) used representative population data from the 1996 *US National Household Survey on Drug Abuse* to explore the relationship between 12-month prevalence of psychiatric disorders and sexual orientation in the USA. They found that homosexually active women (15 per cent) were more likely than women reporting opposite-sex partners only (8.4 per cent) to have had major depression in the past year; however, this difference was not statistically significant. Cochran et al. (2003) found similar results in their study of mid-life adults in the USA. They drew from representative population data collected in the 1995 *MacArthur Foundation National Survey of Midlife Development* in the USA, which measured mental disorder according to DSM-III-R criteria. Cochran et al. found that, overall, lesbian and other homosexually active women were more likely than their heterosexual counterparts to meet DSM criteria (one-year prevalence) on all the disorders measured, including mood, anxiety, and drug and alcohol dependency disorders. However, although one-year prevalence of major depression was higher for lesbian and other homosexually active women (33.5 per cent) than for heterosexual women (16.8 per cent), this difference was not statistically significant.

The Sandfort et al. (2001) study's representative sample drawn from *The Netherlands Mental Health Survey and Incidence Study* is consistent with these studies described. They found slightly higher rates of 12-month prevalence of major depression according to DSM-III-R criteria for homosexually active women (11.6 per cent) than for heterosexual women (7.3 per cent); however, the difference was not significant. Further, rates did not differ between heterosexual women and homosexually active women in 12-month prevalence of dysthymia (2.3 per cent vs. 3 per cent).

Both studies clearly show higher rates of 12-month prevalence of major depression for lesbian and other homosexually active women when compared with women who have sex only with men, even though these differences were statistically insignificant. Two other studies, however, had conflicting results. Gilman et al. (2001), in their analysis of representative data from the National Comorbidity Survey in the USA, also found no difference between heterosexual women and homosexually active women in 12-month prevalence of dysthymia. Unlike the other studies described, however, they did find a significant difference between homosexually active women and heterosexual women in 12-month prevalence of major depression (34.5 per cent vs. 12.9 per cent). In a convenience sample of 403 lesbians living in Chicago, USA, Bostwick et al. (2005) also found significantly elevated rates of 12-month prevalence of depression for lesbians. They found that 22 per cent of lesbians met DSM-III criteria for past-year major

depression, two-to-five times higher than recorded for women in the general population. It is possible, however, that these statistics were inflated due to the Bostwick et al. study's non-probability, convenience sampling frame.

Although the evidence for significantly higher rates of 12-month depression in lesbians is inconsistent, the results for longer prevalence appear much more consistent. Fergusson et al. (2005) explored diagnoses of psychiatric disorders in a birth cohort of people from the city of Christchurch, New Zealand, over a four-year period (when participants were aged between 21 and 25 years). They found that once findings had been adjusted for potentially confounding effects, 41.6 per cent of predominantly homosexual women met DSM-IV criteria for major depression, compared with 32.7 per cent of predominantly heterosexual women and 24.9 per cent of exclusively heterosexual women. Rates of major depression increased according to increasing non-heterosexual identity, experience and behaviour. This study showed significantly higher rates of major depression as identity, sexual behaviour and sexual experience moved further away from exclusive heterosexuality.

The results for lifetime prevalence of depression are also compelling. Although Gilman et al. (2001) did not report percentages, they found that homosexually active women were at significantly higher risk than heterosexual women for meeting DSM-III-R criteria for lifetime major depression. Sandfort et al. (2001) also found that rates of lifetime prevalence of major depression were significantly higher for homosexually active women (44.2 per cent) than for heterosexual women (20 per cent). The rates were even higher in the Bostwick et al. (2005) study: 57 per cent of lesbians met DSM-III criteria for lifetime major depression compared with rates for women in the general USA population, which vary between 11 and 21 per cent.

Although there appears to be a definite trend for lesbians and homosexually active women to have higher rates of major depression than heterosexual women, this trend appears significant more for lifetime prevalence than for 12-month prevalence. The strengths of most of the studies lie in their use of representative population data and in their measuring of depressive disorders according to DSM criteria. However, they mostly suffer from the same problem of having very small sample sizes of lesbian and other homosexually active women, which can minimise power in detecting significant differences.¹⁸ Nevertheless, an overall trend for higher rates of depression in lesbians compared with heterosexual women is consistent with three other studies that recruited large numbers of non-heterosexual women (Case et al. 2004; McNair et al. 2005; Valanis et al. 2000). For instance, Case et al. (2004) explored data from a large cohort of 90,823 female nurses (Nurses Health Study II) in the USA, ranging in age from 32 to 51. They were interested in exploring physical and mental health risk factors, and different outcomes among women based on sexual orientation. Current depression was measured with the mental health scale of the Medical Outcomes Study Short Form. In the sample of 90,823 nurses, 694 women identified as lesbian and 317 as bisexual. After adjusting for demographic variability, Case et al. found that 18.8 per cent of lesbians, compared with 13.3 per cent of heterosexual women, met the criteria for depression.¹⁹

18 Cochran and Mays (2000b) had a sample of 96 same-sex sexually active women, compared with 5,792 women who had only opposite-sex sexual partners. Further, Cochran and Mays claimed not to have drawn 'strictly' from DSM criteria (without elucidating exactly what this means) and this may have further reduced the reliability of their results. The sample in the Fergusson et al. (2005) study included 67 predominantly heterosexual women and only 20 predominantly lesbian women. Gilman et al. (2001) sampled 36 women who had sex only with women and 15 women who had sex with both men and women (i.e. they collapsed these two groups to make an overall sample of 51). The Sandfort et al. (2001) study comprised 43 homosexually active women (which included 16 women who also had sex with men), and the Cochran et al. (2003) study had even smaller subsamples, and, even though lesbian and bisexual women were collapsed for analysis, they comprised a sub-sample of only 32 subjects compared with 1,462 heterosexual women.

19 Case et al. also reported data on bisexual women. See page 38 of this report.

McNair et al. (2005) analysed data from the *Australian Longitudinal Study on Women's Health* and included subsamples of two cohorts: younger women (aged between 22 and 27); mid-aged women (aged between 50 and 55). It is difficult to compare the results of this study with the other representative studies, as McNair et al. did not measure depression according to DSM criteria but, rather, measured depressive symptoms according to the CES-D (measuring current depressive symptoms, rather than 12-month or lifetime prevalence of major depression). McNair et al. found that after adjusting for demographic variability, exclusively/mainly homosexual women in the younger cohort had higher depressive symptom scores on the CES-D than their exclusively heterosexual counterparts (CES-D means: 9.8 vs. 7.3 respectively).²⁰ However, these results became insignificant when other variables (e.g. stress, experiences of abuse, social support) were factored in. Young, exclusively/mainly homosexual women were significantly more likely than exclusively heterosexual women to report doctor-diagnosed depression in the past four years (26.2 per cent vs. 10.9 per cent respectively), to self-report depression in the past year (40.7 per cent vs. 18.7 per cent respectively) and to report the use of prescription medication for depression in the past month (15.3 per cent vs. 4 per cent respectively).²¹ McNair et al. found that for mid-aged women the differences in mental health across sexual identity categories were less consistent. There was virtually no difference in depressive symptom scores between mid-age exclusively heterosexual women and mainly/exclusively homosexual women (CES-D means: 6 vs. 6.1 respectively). Mid-aged mainly/exclusively homosexual women had slightly higher rates of doctor-diagnosed depression in the last four years than exclusively heterosexual women (18.4 per cent vs. 11.2 per cent), and slightly higher rates of self-reported use of prescription medication for depression in the past month than exclusively heterosexual women (11.3 per cent vs. 7 per cent); however, these differences were not significant. In fact, in the mid-aged cohort, the only significant difference between exclusively/mainly homosexual women and exclusively heterosexual women was for self-reported depression in the past year (the former reported less depression than the latter) and, further, this difference became significant only after controlling for stress, experiences of abuse, and social support.²²

Valanis et al. (2000) found that depressive scores differed between heterosexual and non-heterosexual post-menopausal women aged between 50 and 79 years when examining data from the *Women's Health Initiative*, a study based in 40 clinical centres in the USA that recruited women largely through community settings. Valanis et al. divided the sample of 93,311 women who responded to questions on recent and lifetime sexual behaviour into five groups: heterosexual (n=90,578); bisexual (n=740); lifetime lesbian (n=264); adult lesbians (n=309); and women who did not have adult sex (n=1420). They found that adult lesbians (15 per cent) and lifetime lesbians (16.5 per cent) were significantly more likely to suffer from risk of depression than heterosexual women (11.1 per cent) on a shortened version of the CES-D.

It appears that rates of depressive symptoms in non-heterosexual women may vary depending on age or life stage, i.e. younger lesbians may be more prone to depressive symptoms than mid-life lesbians and postmenopausal lesbians may also be at an increased risk for depression. However, few studies listed findings on age as a variable in depression in lesbians. There is little evidence in the literature to support *or negate* a relationship between age and levels of depression in non-heterosexual women. The only study that explored differences in depression levels in non-heterosexual women according to age was undertaken by Bostwick et al. (2005) in a non-random, community-based study previously described. They found in a sample of 403 lesbians that rates of past-year depression were significantly higher for younger lesbians (32 per cent for women younger than 30) than for mid-age and older lesbians

20 Note that McNair et al. (2005) analysed several categories of sexual orientation: exclusively heterosexual; mainly heterosexual; bisexual; exclusively/mainly homosexual. The results for mainly heterosexual and bisexual women are explored in more depth on page 38 of this report.

21 These differences attenuated but remained significant after controlling for demographic variability, stress, experiences of abuse, and social support.

22 There were, however, several significant differences between mainly heterosexual and exclusively heterosexual women. See page 38 of this report.

(14 per cent for women aged between 41 and 49 and 15 per cent for women aged 50 and above). The results were less conclusive for prevalence of lifetime depression: lesbians aged 50 and above showed only slightly higher rates of depression (60 per cent) than younger and mid-age lesbians (58 per cent of women aged below 40, and 52 per cent of women aged between 41 and 49).

There is also some evidence to suggest a connection between ethnicity and sexual orientation; however, it is difficult to generalise given that the only studies to explore depression in non-heterosexual ethnic minority people were conducted in the USA, where race/ethnicity is considered to be a particularly salient category of analysis. These findings suggest that ethnic minority lesbians may suffer the same rates of depression as, or in some cases less depression than, white lesbians or lesbians in general (Bostwick et al. 2005; Cochran et al. 2007). Nevertheless, in line with the research described in this section on lesbians in general, it appears that ethnic minority lesbians suffer from higher rates of depression than ethnic minority heterosexual women (Cochran et al. 2007; Mays et al. 2003).

2.2.1 Summary on lesbian and other homosexually active women

It is possible to identify several trends in relation to rates of depressive symptoms and clinical depression in lesbian and other homosexually active women when compared with heterosexual women. Overall, lesbian and other homosexually active women consistently show higher rates of depression than heterosexual women; however, although the findings on 12-month prevalence of depression were uncertain (i.e. some results were insignificant), the results for lifetime prevalence of depression were robust. Moreover, rates of depression appear to vary according to demographic variables. In particular, younger and older lesbians would appear to be more at risk for depression than mid-age lesbians. Further, there is evidence to suggest that rates of depression among non-heterosexual women may vary according to ethnicity.

2.2.2 Depression in perinatal, postnatal and adoptive lesbian parents

It is worth outlining an emerging literature on mental health issues for non-heterosexual parents or parents-to-be, e.g. pregnant lesbians, biological or non-biological mothers, and adoptive mothers.²³ In a literature review on perinatal mental health, Ross (2005) noted that little emphasis has been placed on studying postnatal depression in non-heterosexual women, despite their growing choice to parent children, either alone or with a lesbian partner. According to a later study (Ross et al. 2007b), empirical studies have suggested that one of the biggest risk factors for postnatal depression in heterosexual women is previous experience of depression. As lesbian women suffer the same or higher levels of depression as heterosexual women, they may also be at the same or higher risk for postnatal depression. Ross (2005) suggested that, although non-heterosexual women might share similar risk factors for postnatal depression to heterosexual women, the former may be at heightened risk due to homophobia, discrimination, minority stress and lack of social support. Unfortunately, there are few findings on prevalence of depression in lesbian mothers, or on the risk or protective factors for postnatal depression in non-heterosexual women.

Ross et al. (2007b) conducted a study in Toronto, Canada, of 49 lesbian and bisexual women who were pregnant, or biological or non-biological parents of a child less than one year-old. Ross et al. compared lesbian and bisexual women's postnatal depression scores, measured with the Edinburgh Postnatal Depression Scale (EPDS), to the scores of 149 heterosexual women sampled in previously published findings. Four lesbian/bisexual women (one pregnant woman and three women in the biological parent

²³ Although gay men also raise children (as biological, non-biological or adoptive fathers), the studies on depression in sexual minority parents referred only to women.

group) met the criteria for postnatal depression. When compared with the heterosexual sample, Ross et al. found that, although lesbian/bisexual women did not score significantly higher on the EPDS than heterosexual women late in the last trimester, lesbian/bisexual biological mothers had significantly higher depression scores at 16 weeks postpartum than heterosexual women. They found no difference in EPDS scores between lesbian/bisexual, non-biological mothers and the heterosexual sample. Further, bisexual women in the sample had significantly higher EPDS scores than lesbians, despite the small sample size (49 women, 15 of whom were bisexual). Although there are very few empirical studies of postnatal depression in non-heterosexual women, it would appear from the Ross et al. study that risk for postnatal depression may be greater for lesbian/bisexual biological mothers and that the risk, overall, may be highest for bisexual women. Ross et al. did not find higher depression scores for non-biological parents; however, it is possible that non-biological lesbian/bisexual mothers may also be at risk for depression. Indeed, earlier, Ross (2005) noted that non-biological lesbian/bisexual mothers may experience distress similar to heterosexual fathers, such as feeling excluded when the biological mother is breastfeeding or feeling that the baby is bonding more closely with the biological mother. According to Ross, however, non-heterosexual non-biological mothers may go through specific stressors, such as not being treated as a real mother by family, friends and strangers, and feeling that they 'must justify the quality of their parenthood' (121).

Lesbian women and couples who are in the process of trying to adopt an infant may also go through specific stressors related to their sexual orientation. Goldberg and Smith (2008) conducted a study in the USA comparing the mental health of, and predictors of well-being for, heterosexual and lesbian pre-adoptive couples. Thirty-six lesbian couples and 39 heterosexual couples were recruited with the help of adoption agencies and gay and lesbian organisations. According to Goldberg and Smith, lesbian women may receive less social support than heterosexuals and, further, may confront 'heterosexism in their quest to become parents' (283), in some cases having to hide their sexual orientation, particularly to adoption agencies. Goldberg and Smith found that lesbian pre-adoptive couples did not have significantly higher levels of depressive symptoms than pre-adoptive heterosexual couples as measured through the CES-D. The authors note that this finding may have been due to the fact that adoptive parents generally have higher education and resources and potentially higher levels of psychosocial well-being, given that those with lower levels of well-being would be more likely to fail the adoption screening process. Goldberg and Smith also note, however, that their findings challenge 'stereotypes of sexual minorities as fundamentally different (e.g. less mentally stable) from heterosexuals' (292).

2.2.3 Summary on perinatal, postnatal and adoptive lesbian parents

There are few studies that address the issue of depression in non-heterosexual parents or parents to be and, further, there are no studies on depression in gay male biological or adoptive parents. Nevertheless, there is some evidence to suggest that lesbian and bisexual biological mothers may be at higher risk for depression when compared with heterosexual biological mothers. Further, it appears that bisexual women might be at even greater risk than lesbians. There is little evidence to suggest that lesbian non-biological or pre-adoptive mothers are at a higher risk for depression. Nevertheless, it is probable that they are at least at the same risk for depression as heterosexual non-biological and pre-adoptive parents and, further, the literature suggests that they may experience specific stressors related to their sexual orientation.

2.3 Gay and other homosexually active men

Just as the literature on depression in lesbian and other homosexually active women is conflicting, but suggestive of a particular trend toward higher depression rates depending on prevalence time frames, studies on depression in gay and other homosexually active men show a trend toward higher rates of depression that also vary according to 12-month and lifetime prevalence when compared with heterosexual men. The range of prevalence rates of past year depression for gay and other homosexually active men varied from between approximately 10 per cent to 30 per cent, and from between 15 per cent to 30 per cent for lifetime major depression. There were few studies that collected data on prevalence of dysthymia in gay and other homosexually active men.

Four representative population studies (Cochran and Mays 2000b; Cochran et al. 2003; Gilman et al. 2001; Sandfort et al. 2001), described in the previous section on lesbians, also reported results for past-year prevalence of major depression in gay and other homosexually active men. Gay and other homosexually active men had significantly higher rates of past-year depression than heterosexual men in three out of four of these studies. Cochran and Mays (2000b) found that 13.3 per cent of homosexually active men met DSM-IV criteria for major depression in the past year compared with 5.1 per cent of men who had sex only with women. Cochran et al. (2003) also found a significant difference between gay and homosexually active men (31 per cent) and heterosexual men (10.2 per cent) in past-year rates of major depression. In the Sandfort et al. (2001) study, 9.8 per cent of homosexually active men, compared with 3.9 per cent of heterosexual men, met the criteria for 12-month prevalence of major depression. Rates for past-year dysthymia, however, did not differ significantly between homosexually active men (3.7 per cent) and heterosexual men (1.3 per cent). In contrast to these studies, Gilman et al. (2001) did not find a significant difference between homosexually active men and heterosexual men in 12-month rates of major depression (10.3 per cent vs. 7.2 per cent).

As noted in the previous section, one of the main problems with representative population studies is their small non-heterosexual sample sizes (98 homosexually active men in Cochran and Mays 2000b; 41 gay and homosexually active men in Cochran et al. 2003; 82 homosexually active men in Sandfort et al. 2001; 74 homosexually active men in Gilman et al. 2001). Nevertheless, studies with much larger sample sizes that employed probability sampling frames appeared to support the pattern for higher 12-month depression rates for gay and other homosexually active men. Wang et al. (2007) recruited 571 gay and other homosexually active men in the Geneva Gay Men's Survey, a venue-based probability survey conducted in Switzerland. They found that 19.2 per cent of the sample met DSM-IV criteria for 12-month prevalence of major depression. Although they also found that their sample consistently rated higher than general populations in Europe for 12-month prevalence for any psychiatric disorder, Wang et al. did not do specific comparisons for prevalence for major depression.

Mills et al. (2004) were able to recruit a larger sample (2,678) of gay and other homosexually active men through a household-based probability study that screened 63,783 households for same-sex sexual orientation in men living in four cities in the USA (San Francisco, New York, Los Angeles and Chicago). Mills et al. measured depression with the CES-D rather than with a diagnostic interview consistent with DSM diagnosis; however, they did use the more conservative CES-D cut-off score of 23 to indicate probable depression, with scores between 16 and 22 indicating distress. They found that 17 per cent of gay and other homosexually active men were currently depressed (i.e. scoring above 23 on the CES-D). Although Mills et al. did not use a heterosexual control group, they did compare their results with data

collected in probability samples of men in the general population that also used the CES-D. They found that gay and other homosexually active men were between 4.5 and 7.6 times more likely to be depressed than men in the general population.

Evidently, gay and other homosexually active men appear to rate higher than heterosexual men for 12-month prevalence for depression. According to the Fergusson et al. study (2005), conducted in New Zealand, these differences between gay and other homosexually active men and heterosexual men remained when exploring longer time frames. As noted in the previous section, Fergusson et al. (2005) found a pattern for women wherein rates of major depression over a four-year time period increased according to increasing non-heterosexual identity, experience and behaviour. Fergusson et al. found the same pattern for men; however, rates of major depression increased much more dramatically for non-exclusively heterosexual men than they did for non-exclusively heterosexual women. Whereas 14.2 per cent of exclusively heterosexual men met DSM-IV criteria for major depression in a four-year time period, rates increased to 42.3 per cent for predominantly heterosexual men and to 75.5 per cent for predominantly homosexual men.

The results for rates of lifetime depression in gay and other homosexually active men are more inconsistent. Cochran and Mays (2000a) explored lifetime prevalence of affective disorders and suicide symptoms in homosexually active men in the USA by drawing from representative population data from the *Third National Health and Nutrition Examination Survey*.²⁴ When comparing homosexually active men with men who had sex with women only, Cochran and Mays found that rates of recurrent depression were significantly higher for homosexually active men (12.2 per cent vs. 3.5 per cent), but the difference reduced and became insignificant when demographic factors were controlled for. Further, although approximately 15 per cent of gay and other homosexually active men and 6.5 per cent of men with female sexual partners met DSM-III-R criteria for lifetime depression, this difference was not significant. In contrast, Sandfort et al. (2001) did find significant differences between homosexually active men and heterosexual men in lifetime prevalence of major depression (29.3 per cent vs. 10.9 per cent). Neither Cochran and Mays, nor Sandfort et al., found significant differences between homosexually active men and heterosexual men in lifetime prevalence of dysthymia.

There are very few findings on varying rates of depression in gay and other homosexually active men according to age. Mills et al. (2004) found practically no difference in current rates of depression in different age groups ranging between 18 and 69 (i.e. rates varied between 16 per cent and 18 per cent). They did find, though, that gay and other homosexually active men aged 70 and above were much less likely to have current depression (i.e. 5 per cent). However, one must take into account the sample size of men over 70 years of age (N=41), which was much smaller than sample sizes in other age categories. Wang et al. (2007) also reported findings for 12-month prevalence of psychiatric disorder among gay and other homosexually active men according to age. They found that rates of psychiatric disorder were highest for younger men (aged between 25 and 44) and lowest for older men (aged 55 and above); however, these differences were not significant. Further, Wang et al. only explored rates of overall psychiatric morbidity (i.e. any psychiatric disorder), and did not present findings specifically on major depression in different age groups. Nevertheless, both of these studies indicate lower rates of past-year psychiatric morbidity in older gay and other homosexually active men.²⁵

24 Note that the authors collapsed men who had sex with both men and women into a homosexually active category.

25 There were no studies that explored lifetime depression specifically in gay and homosexually active men in different age groups. Meyer et al. (2008) explored lifetime depression in GLB people across different age groups, but they did not analyse men and women separately. See the results of this study on page 42 of this report.

Much like the literature on lesbian and other homosexually active women, it appears that ethnicity may affect rates of depression among gay and other homosexually active men in the USA. Mills et al. (2004) found that according to the CES-D, rates of depressive distress and risk for clinical depression in gay and other homosexually active men varied according to ethnicity. However, studies comparing ethnic minority gay men with ethnic minority heterosexual men showed contradictory results. Yoshikawa et al. (2004) found that Asian-Pacific Islander gay and other homosexually active men showed higher rates of risk for clinical depression on the CES-D than adults in the USA generally, or Asian-American adults in the general population. In contrast, Cochran et al. (2007) found no significant difference in lifetime or 12-month prevalence of depressive disorders (i.e. major depression and/or dysthymia according to DSM-IV criteria) between Asian-American and Latino 'gay/bisexual' men and their heterosexual counterparts.

2.3.1 Summary on gay and other homosexually active men

Much like the results for lesbian and other homosexually active women, particular trends emerged when comparing prevalence of depressive symptoms and clinical depression between gay and other homosexually active men, and heterosexual men. Overall, gay and other homosexually active men had higher rates of depression than their heterosexual counterparts; however, results for lifetime depression rates in gay and other homosexually active men were conflicting, while the results for higher 12-month prevalence of depression were more consistent. Curiously, this trend for gay and other homosexually active men is the inverse of the trend identified in lesbian and other homosexually active women. In relation to age, younger gay and homosexually active men appear to be at higher risk for 12-month prevalence of depression than their older counterparts; however, overall, there were very few findings on depression in non-heterosexual men of differing ages, and none was found on lifetime prevalence of depression in gay and other homosexually active men throughout the life span. Like the results for lesbian and other homosexually active women, ethnicity may also influence rates of depression in gay and other homosexually active men; however, it is difficult to make any conclusions given that the results for the latter appear to be more inconsistent.

2.3.2 HIV-positive gay and other homosexually active men

We commented in the methodology section on a pervasive tendency in the literature to employ gay and other homosexually active men as a means through which to explore issues associated with sexual risk and HIV/AIDS without showing particular interest in sexual orientation. Indeed, Cochran et al. (2003: 53) explain that the introduction of measures of sexual orientation and behaviour into large-scale representative population studies '...arose out of public health surveillance needs to track risk factors for HIV transmission in the general population'. Nevertheless, as Rogers et al. (2003) suggest, HIV infection is associated with high prevalence of depression and may have particular mental health consequences for people regardless of their sexual orientation. Rogers et al. also note that, although depression in HIV-positive people may arise from a range of psychosocial and neurochemical factors, there is evidence of 'levels of depressive disorder among uninfected members of the communities particularly affected by HIV that are similarly high' (271). While gay and other homosexually active men are in an HIV high-risk category, it is important to examine the literature for prevalence of depression in HIV-positive gay and other homosexually active men when compared with both HIV-positive heterosexual men and HIV-negative gay and other homosexually active men, in order to explore how much depression in gay and other homosexually active men can be accounted for by HIV infection.

Several studies, already noted, which explored prevalence of depression in non-heterosexual people included measures designed to identify HIV status and/or experiences associated with HIV/AIDS. None of these studies, however, found a relationship between sexual orientation and depression connected with

HIV status. In the Sandfort et al. (2001) representative population study, only one participant (a woman) reported being HIV-positive, in line with low rates of HIV infection in The Netherlands. Thus, HIV status could not explain higher depression levels in non-heterosexual people. The results of other studies that had larger subsamples of HIV-positive men led to similar conclusions. For instance, Gilman et al. (2001) found that, although HIV-positive status was associated with higher rates of psychiatric morbidity, and despite homosexually active men having higher rates of HIV infection than heterosexual men, when HIV status was controlled for overall, rates of lifetime prevalence of mental disorder, including major depression, were still significantly higher in homosexually active men than in heterosexual men. Cochran et al. (2003) arrived at the same conclusion, after finding that differences between heterosexual and gay and other homosexually active men in rates of 12-month prevalence of depression did not change when data were controlled for having had received treatment for HIV or AIDS in the past 12 months; however, they noted that the small sub-sample of HIV-infected men may have reduced statistical power and the authors' ability to detect a significant effect.

These studies suggest that HIV-positive status cannot explain higher rates of major depression or depressive symptoms in gay and other homosexually active men, even though such men have higher rates of HIV infection. There is further support for this hypothesis in two studies that compared HIV-positive with HIV-negative gay and other homosexually active men. In their sample of 2,678 gay and other homosexually active men, 455 of whom were HIV-positive, Mills et al. (2004) found no significant differences between HIV-positive and HIV-negative men in rates of distress (i.e. a score between 16 and 22 on the CES-D) or risk for depression (i.e. a score of 23 or above on the CES-D). Although Mills et al. used the CES-D and measured depressive symptoms or risk for depression, Rogers et al. (2003) found the same results when measuring clinical depressive disorders according to DSM-IV criteria. Rogers et al. studied a sample of 460 gay and homosexually active men attending a primary care programme, designed to improve health outcomes for HIV-positive people and those at risk for HIV, in Adelaide, Australia. Thirty-five per cent of that sample were HIV-positive. According to Rogers et al., on enrolling into the programme, 28 per cent of the sample met the criteria for current major depression, 26 per cent for dysthymia, and 18 per cent of the group met the criteria for double depression (both major depression and dysthymia). Rogers et al. found that the current prevalence rates for major depression and for dysthymia were exactly the same for HIV-positive participants as for HIV-negative participants. It must be noted that this was a clinical sample and rates of depression may have been inflated; however, this study still supports the proposition that HIV infection as such is not responsible for high rates of depression in gay and other homosexually active men.

Although the international literature suggests that HIV status does not predict different rates of depression in gay and other homosexually active men, one ARCSHS study revealed different results. In the *Private Lives* data, same-sex-attracted men who were HIV-positive were more likely to report depressive symptoms than same-sex-attracted HIV-negative men. On the two marker items of the Prime-MD, HIV-positive men were more likely to report little interest or pleasure in doing things (42.1 per cent vs. 33.4 per cent, $\chi^2(1) = 7.89$, $p = .005$) and feeling down, depressed or hopeless in the past two weeks (47.7 per cent vs. 40.4 per cent, $\chi^2(1) = 5.12$, $p = .024$). HIV-positive men were also more likely to have experienced trouble concentrating in the two weeks prior to being surveyed (33.7 per cent vs. 22.0 per cent, $\chi^2(1) = 18.02$, $p < .001$) and also appeared at greater risk of suicidal ideation and/or self-harm (21.4 per cent vs. 14.7 per cent, $\chi^2(1) = 7.92$, $p = .005$). Men who were HIV-positive were also more likely to report a history of depression, with relatively more HIV-positive (39.9 per cent) than HIV-negative men (33.3 per cent) feeling depressed more than half the days in the past two years ($\chi^2(1) = 4.54$, $p = .033$).

2.3.3 Summary on HIV-positive gay and other homosexually active men

Although HIV infection may lead to higher rates of depression and depressive symptoms in both heterosexual and non-heterosexual men, the international literature suggests that higher rates of depressive disorders in gay and other homosexually active men cannot be accounted for, entirely or largely, by HIV status. Indeed, in the international studies reviewed, differences in rates of depression between heterosexual men and gay and other homosexually active men did not change after HIV status was controlled for. Further, the literature suggests that rates of depression do not differ significantly between HIV-positive and HIV-negative gay and other homosexually active men.²⁶ In contrast to the international literature, one ARCSHS study did find a significant difference in depressive symptoms between Australian HIV-positive and HIV-negative same-sex-attracted men, highlighting the need for additional research in this area.

2.4 Bisexual people

One of the greatest barriers to exploring depression in bisexual people is the tendency to exclude this group from analysis, largely due to small sample sizes (e.g. Lewis et al. 2001; McClaren 2006; McClaren et al. 2007; McClaren et al. 2008; Oetjen and Rothblum 2000), or to make them invisible within the study by measuring 'any same-sex behaviour', thus obscuring potential differences between people who have only same-sex sexual relations and people who have sexual relations with both sexes (e.g. Bos et al. 2008; Cochran and Mays 2000a; Cochran and Mays 2000b). Some studies (e.g. Cochran and Mays 2003; Cochran et al. 2007; Consolacion et al. 2004; D'Augelli 2002; Gilman et al. 2001; Igartua et al. 2003; Sandfort et al. 2001; Silenzio et al. 2007; Smith and Ingram 2004; Szymanski et al. 2001; Williams et al. 2008) measured homosexual and bisexual identity, behaviour or attraction separately, yet collapsed bisexuals into gay or lesbian groups, again, largely in order to increase power due to small sample sizes.

Three other studies managed to obscure bisexual people through unclear measurement or categorisation of sexual orientation. Lewis et al. (2003) did not describe a measure of sexual orientation but stated that they recruited participants from GLB events or organisations. Bisexual people, however, appeared to be absent from this study. Luhtanen (2003) was also unclear about how self-identified sexual identity was measured in her community-based sample, but nonetheless collapsed bisexual people into gay or lesbian samples for analysis. Mills et al. (2004) screened respondents in their study of gay and other homosexually active men according to sexual behaviour. However, when exploring sexual identity they identified only two categories of analysis: (1) gay, queer or homosexual; and (2) other, which according to the authors included bisexual men and other homosexually active men who had not had sex in the last five years, regardless of whether they had previously had sex with women or not.

As outlined in the section on non-heterosexual young people, only one study reported findings on depressive symptoms for both-sex-attracted young people. Galliher et al. (2004) found that similarly to same-sex-attracted young people, both-sex-attracted young people had significantly more symptoms of depression, according to the CES-D, than other-sex-attracted young people. Galliher et al. did not find any significant difference in amount of depressive symptoms between same-sex- and both-sex-attracted young people; however, they did find that in relation to overall psychosocial well-being (which included school belonging, self-esteem, and depression), both-sex-attracted young people, particularly young women, had the poorest outcomes. Further, both-sex-attracted young women had the lowest self-esteem out of all the groups.

²⁶ Although the international evidence suggests that HIV-positive gay and other homosexually active men have higher rates of depression than HIV-positive heterosexual men, depressive symptom scores did not differ significantly between HIV-positive heterosexual and non-heterosexual women (Cooperman et al. 2003).

The studies that analysed data on bisexual adults separately from gay or lesbian adults consistently showed that bisexuals had poorer mental health outcomes than heterosexual people. As already noted, in the Fergusson et al. (2005) study rates of depression for both men and women increased significantly as identity, sexual behaviour and experience moved further away from exclusive heterosexuality. Predominantly heterosexual women and men had higher rates of depression than exclusively heterosexual women and men, and lower rates of depression than predominantly homosexual women and men. However, the Fergusson et al. study's classification of non-exclusively heterosexual people as either 'predominantly heterosexual' or 'predominantly homosexual' is problematic. It is not clear where the authors place bisexual people or both-sex-attracted people within these categories. Are bisexuals only categorisable as predominantly heterosexual with the occasional same-sex experience, on the one hand, or predominantly homosexual, on the other hand? What of bisexual people who cannot be placed so neatly on either end of the scale of 'predominant sexuality'?

The McNair et al. (2005) study rectified the Fergusson et al. (2005) study's problem with limited categorisation of sexual orientation by employing four analytic sexual identity categories: exclusively heterosexual women; mainly heterosexual women; bisexual women; and mainly/exclusively homosexual women. The results of their study showed that in the younger cohort (aged 22 to 27 years), bisexual women consistently showed poorer mental health outcomes than women in any other group. Bisexual young women had the highest depressive symptom scores (a mean of 10.9 on the CES-D compared with 7.3 for exclusively heterosexual women, 9.4 for mainly heterosexual women, and 9.8 for exclusively/mainly homosexual).²⁷ Bisexual women reported the highest rates of doctor diagnosed depression in the last four years (29.6 per cent compared with 10.9 per cent of exclusively heterosexual women, 24.2 per cent of mainly heterosexual women, and 26.2 per cent of exclusively/mainly homosexual women) and self-reported depression in the last year (46.3 per cent compared with 18.7 per cent of exclusively heterosexual women, 37.6 per cent of mainly heterosexual women, and 40.7 per cent of exclusively/mainly homosexual women). Bisexual women also had high rates of having had taken prescription medication for depression in the past month (15 per cent compared with 4 per cent of exclusively heterosexual women, 8.7 per cent of mainly heterosexual women, and 15.3 per cent of exclusively/mainly homosexual women).²⁸ In contrast, in the mid-age cohort (aged 50 to 55 years), mainly heterosexual women had the poorest outcomes. They had the highest depressive symptom scores (a mean of 7.7 on the CES-D compared with 6 for exclusively heterosexual women, 6.8 for bisexual women and 6.1 for exclusively/mainly homosexual women).²⁹ Further, mainly heterosexual women had the highest rates of doctor-diagnosed depression in the previous four years (21.8 per cent compared with 11.2 per cent of exclusively heterosexual women, 8.7 per cent of bisexual women and 18.4 per cent of exclusively/mainly homosexual women), and self-reported depression in the last year (51.3 per cent compared with 32.8 per cent of exclusively heterosexual women, 35.2 per cent of bisexual women and 26.5 per cent of exclusively/mainly homosexual women).³⁰ They also had the highest rates for having had taken prescription medication for depression in the previous month (13.9 per cent compared with 7 per cent of exclusively heterosexual women, 3 per cent of bisexual women and 11.3 per cent of exclusively/mainly homosexual women).³¹

27 None of the differences in CES-D scores between sexual orientation groups was significant after data were controlled for demographic variability, social support, experiences of abuse, and stress.

28 Bisexual women had significantly higher rates than exclusively heterosexual women of doctor-diagnosed depression, self-reported depression, and history of taking prescription medication for depression, even after data were controlled for demographic variability, social support, experience of abuse, and stress.

29 None of the differences was significant after data were controlled for demographic variability, social support, experiences of abuse, and stress.

30 Mainly heterosexual women had significantly higher rates than exclusively heterosexual women of doctor-diagnosed depression and self-reported depression, even after data were controlled for demographic variability, social support, experience of abuse, and stress.

31 After data were controlled for demographic variability, social support, experience of abuse and stress, mainly heterosexual women did not have significantly higher rates of having had prescription medication for depression when compared with exclusively heterosexual women.

There was conflicting evidence in two other studies with large non-heterosexual sample sizes. Case et al. (2004) found evidence for higher rates of depression in bisexual women when compared with both heterosexual and lesbian women in their analysis of data collected in the *Nurses' Health Study II* in the USA. After adjusting data for demographic factors, they found that although lesbian women (18.8 per cent) were significantly more likely than heterosexual women (13.3 per cent) to meet the criteria for depression, bisexual women had the highest rates of depression (22 per cent). The difference between lesbians and bisexual women, however, was not statistically significant. Valanis et al. (2000) found that bisexual post-menopausal women were more likely to suffer from risk of depression than heterosexual women (15.4 per cent vs. 11.1 per cent). They also found that although lifetime lesbians had slightly higher rates of risk for depression (16.5 per cent) than bisexual women, this difference was not significant.

There is evidence to suggest that bisexual men might also have higher rates of depression than gay men. Mills et al. (2004) found that in their sample of 2,678 gay and other homosexually active men, 16 per cent of men who identified as 'gay', 'queer' or 'homosexual' met the CES-D criteria (a score of 23 or above) for probable depression or high risk for depression, compared with 24 per cent of men who were classified as 'other'. This difference was statistically significant; however, the results must be considered to be inconclusive given, as noted above, that the 'other' category included bisexual men and other homosexually active men who had not had sex in the last five years.

One study that sampled both men and women found that bisexuals had poorer depression outcomes when compared with both heterosexual and homosexual people. Jorm et al. (2002) conducted a representative community study of adults recruited through the electoral roll in Canberra, Australia, in order to examine the relationship between mental health and sexual orientation, aiming to rectify the methodological problems associated with studies that do not analyse gay/lesbian and bisexual participants separately. They measured depressive symptoms with the depression subscale of the Goldberg Anxiety and Depression scales, and found that the bisexual group had significantly more depressive symptoms than the homosexual group which, in turn, had significantly more depressive symptoms than the heterosexual group. One limitation of this study is that it did not analyse how sexual orientation and sex might interact to predict depressive symptoms, so it is impossible to ascertain whether the trend for bisexuals to exhibit more depressive symptoms than homosexuals is more specific to women or men. Further, although Jorm et al. included two different age groups in their Australian sample (young people aged between 20 and 24, and mid-age people aged between 40 and 44), they did not explore how rates of depression varied according to life stage.

There are several methodological implications involved with identifying higher rates of depression in bisexual people than in homosexual people. The most important implication is that many studies collapse bisexual and gay/lesbian participants and, consequently, may be inflating rates of depression for homosexual people. Indeed, two studies (Gilman et al. 2001; Williams et al. 2008) collapsed bisexual and homosexual people even though bisexual participants largely outnumbered gay or lesbian participants. For instance, in the Gilman et al. study, bisexual women comprised a subsample of 41 compared with a subsample of 33 homosexual women. The difference in subsample sizes was even greater in Williams et al., which collapsed 36 bisexuals with eight gay/lesbian participants to create a GLB group.

2.4.1 ARCSHS studies on bisexual people

When analysed separately, Australian bisexual people in many cases exhibited the poorest mental and general health of any of the sexual identity groups in the ARCSHS studies. Moreover, in some cases these differences in mental health between heterosexual and non-heterosexual populations were accounted for completely by the bisexual subsample.

In the *ASHR* study, mental health was measured using the K6 depression measure (Kessler et al. 2002), a six-item, uni-dimensional, depression scale that yields scores ranging from six to 30. The lower the respondent score on this scale the more likely s/he is to display depressive symptomology. In the *ASHR* study, respondents who identified as non-heterosexual (these included those identifying as 'homosexual', 'bisexual', or 'queer'—excluding 'undecided') were more likely (mean: 24.4) than heterosexual respondents (mean: 25.1) to report symptoms indicative of depression ($F_{1,7519} = 23.88$, $p < .001$). However, when those identifying as 'bisexual' and 'homosexual' were compared separately with heterosexual respondents, the difference in self-reported depression was specified. Using those identifying as heterosexual as the reference group, analysis showed that bisexual respondents (mean: 23.1 vs. 25.3, $F_{1,7519} = 11.88$, $p = .001$), but not those reporting homosexual sexual identity (mean: 25.1 vs. 25.3, $F_{1,7519} = .36$, $p = .550$), were more likely to report depressive symptoms. Moreover, respondents identifying as 'homosexual' reported significantly lower levels of depression as measured by the K6 compared with 'bisexual' respondents (mean: 25.1 vs. 23.1, $F_{1,7519} = 10.72$, $p = .001$).

The mental health of *Private Lives* respondents was also analysed by sexual identity. A dichotomous measure of sexual identity was used to compare homosexual respondents (those identifying as 'gay man', 'gay woman', 'queer', 'lesbian', 'dyke', and 'don't use a label') with those identifying as 'bisexual'. In the previous two weeks, bisexual respondents were more likely to report 'feeling down, depressed or hopeless' (44.8 per cent vs. 40.4 per cent, $\chi^2(1) = 3.85$, $p = .050$), 'poor appetite or over eating' (46.0 per cent vs. 40.9 per cent, $\chi^2(1) = 5.27$, $p = .022$), and 'feeling bad' about themselves or feeling that they 'were a failure', or that they 'had let themselves or family down' (40.9 per cent vs. 36.0 per cent, $\chi^2(1) = 5.22$, $p = .022$). Furthermore, bisexual respondents were also significantly more likely to report suicidal ideation compared with those identifying as homosexual (20.7 per cent vs. 14.8 per cent, $\chi^2(1) = 13.41$, $p < .001$). When these findings were analysed by respondents' sexual experience over the past 12 months (sex with the people of the same sex vs. sex with those of both sexes) the same patterns persisted.

The difference between bisexual and homosexual people was also evident in self-rated general health. In the *Private Lives* study, fewer bisexual respondents rated their health in the past year as 'very good' or 'excellent' compared with homosexual respondents (46.0 per cent vs. 50.5 per cent, $\chi^2(1) = 4.04$, $p = .044$).

In *ALSHR* data, analysis revealed bisexual people to be at greatest risk of experiencing emotional problems (self-reported). Multi-nominal logistic regression showed that compared with respondents identifying as heterosexual, bisexual respondents were more likely to report being both affected 'moderately' (28.3 per cent vs. 20.4 per cent; $F_{1,8642} = 5.63$, $p = .018$) and 'quite a lot' or 'extremely' (23.9 per cent vs. 17.2 per cent; $F_{1,8642} = 5.13$, $p = .024$) by emotional problems in the previous four weeks. Moreover, respondents identifying as bisexual were also more likely than those identifying as homosexual (15.1 per cent) to report being 'moderately' affected by emotional problems in the past month ($F_{1,8642} = 3.94$, $p = .047$). Although a greater proportion of respondents identifying as homosexual (28.3 per

cent) reported being bothered by emotional problems 'quite a lot' or 'extremely' compared with both heterosexual and bisexual people, these differences were not statistically significant ($F_{1,8642} = 3.83$, $p = .051$ and $F_{1,8642} = 0.0$, $p = 1.00$ respectively).

In the *WTIA* study, young bisexual people were more likely to be at greater risk of experiencing low levels of satisfaction with dimensions of their lives. Multi-nominal logistic regression showed that, compared with homosexual people, bisexual respondents were more likely to report dissatisfaction with both themselves (23.3 per cent vs. 14.5 per cent, $z = 4.02$, $p < .001$) and their lives (17.2 per cent vs. 6.7 per cent, $z = 6.26$, $p < .001$), and were also more likely to convey ambivalence ('mixed feelings') with regards to both their sense-of-self (35.1 per cent vs. 29.5 per cent, $z = 6.26$, $p < .001$) and their life experience (29.3 per cent vs. 22.4 per cent, $z = 3.76$, $p < .001$). Although homosexual respondents (37.3 per cent) were more likely to either self-harm or consider self-harm compared with bisexual young people (31.9 per cent), the difference was not statistically significant ($\chi^2(1) = 3.22$, $p = .073$).

2.4.2 Summary on bisexual people

Despite a continuous tendency in the literature to exclude bisexual people, or to obscure them in the analysis, the international studies that explored bisexual people separately from homosexual people showed that bisexuals have higher rates of depression or depressive symptoms than heterosexual people and, further, are at the same or higher risk for depression than homosexual people. This tendency appears to be particularly robust for women (young *and* adult); however, it is difficult to make any firm conclusions about sex as the data on bisexual men is much more limited, and there were few findings that compared bisexual men with bisexual women. The ARCSHS studies support the proposition that high rates of depression in Australian non-heterosexual people may be slightly inflated due to even higher rates of depressive symptoms in bisexuals. Indeed, in all four ARCSHS studies described in this section, bisexuals exhibited poorer mental health than homosexuals.

2.5 General GLB populations

There are some studies where sex differences were neither noted nor available, or where statistical analyses would not be valid on such small samples. In the majority of these studies, GLB populations were analysed as a general category with little or no analysis of the differences between gay, lesbian and bisexual men or women. A number of these studies are included in this section.

Perhaps the least helpful example of GLB participant aggregation was a study that referred to 'lesbigay' people. Westefeld et al. (2001) explored a convenience sample of 70 gay, lesbian and bisexual college students, recruited from on-campus organisations for non-heterosexual students in five universities in the Midwest, USA. The authors did not explore differences in mental health between men and women or between different identity groups. Rather, they collapsed gay, lesbian and bisexual college students into one analytic group, 'lesbigay', and compared them with a control group of 141 college students of unknown sexual orientation.³² Westefeld et al. measured depressive symptoms with the BDI and found that the 'lesbigay' group had significantly higher rates of depressive symptoms than the control group. Nevertheless, this tells us very little about depression in non-heterosexual people beyond the suggestion that college students appear to follow the same trend as young people and adults.

³² Westefeld et al. (2001) were not clear about whether they measured sexual orientation for 'lesbigay' students, perhaps assuming 'lesbigay' orientation via participants' association with GLB college organisations.

A study by Meyer et al. (2008), which explored lifetime prevalence of mental disorder within a GLB sample according to DSM-IV criteria, was more useful as it explored variability within a GLB sample. However, this study did not explore how multiple variables (such as age, gender, or sexual orientation) interacted. Nevertheless, the Meyer et al. results mostly confirm the results of other studies on gay, lesbian, bisexual and other homosexually active men and women, specifically in relation to differences in rates of depression based on sexual orientation. Meyer et al. used a convenience sampling frame to recruit 388 gay, lesbian and bisexual-identified residents of New York City, USA, and, consistent with a pattern illustrated in this review, Meyer et al. found that bisexual men and women had slightly higher rates of lifetime major depression than gay men and lesbians (32.9 per cent vs. 30.2 per cent). The difference increased for dysthymia; 12.9 per cent of bisexuals had lifetime prevalence of dysthymia in comparison with 4.4 per cent for gay men and lesbians. None of these differences was significant; however, the findings certainly suggest that bisexuals may be as equally or even more prone to depression as gay and lesbian people.

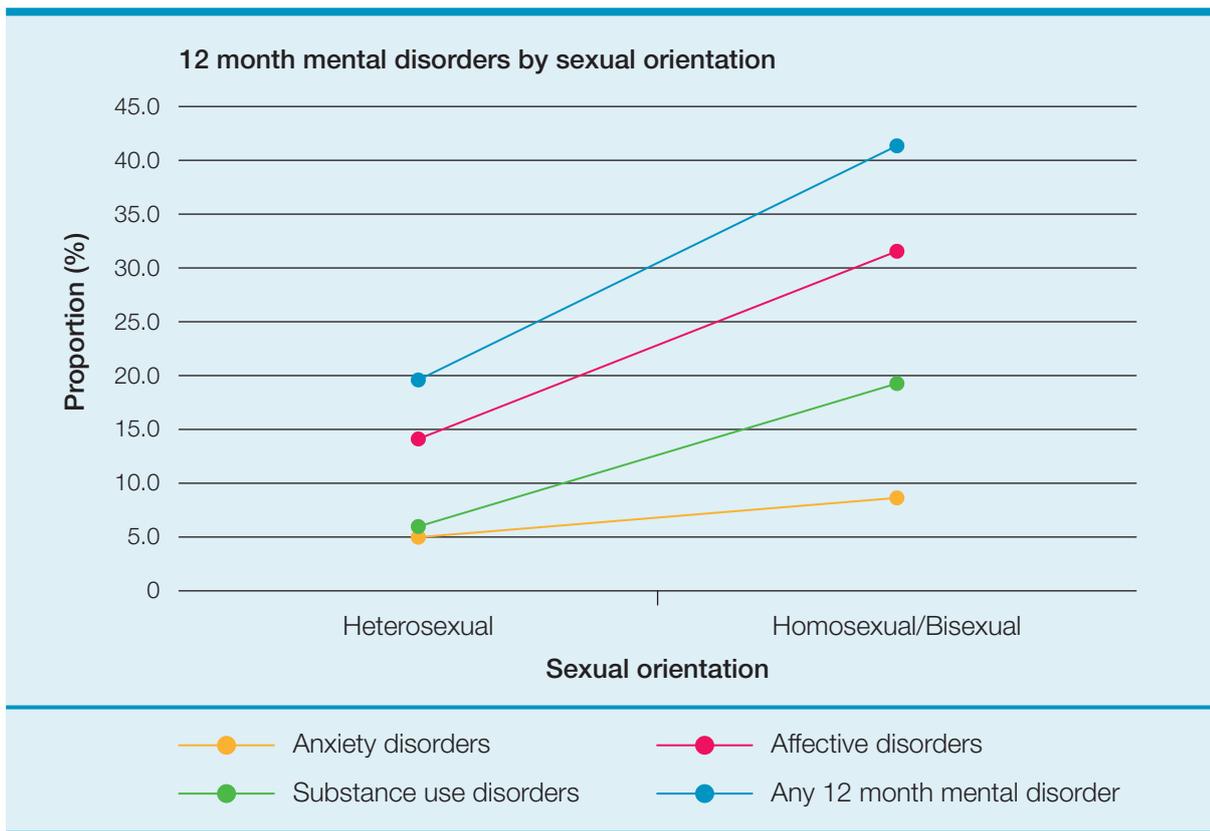
Meyer et al. (2008) also explored how rates of lifetime depression varied between different age groups. They found that rates of major depressive disorder and dysthymia were much greater for older GLB people than for younger or mid-aged GLB people. Whereas 29.1 per cent of GLB people aged between 18 and 29, and 25.7 per cent of those aged between 30 and 44, met DSM-IV criteria for lifetime major depression, rates increased dramatically for GLB people aged between 45 and 59 (55.6 per cent). Further, although rates of dysthymia did not differ between the young and mid-age groups (4.7 per cent and 4.1 per cent respectively); 17.8 per cent of older GLB people met diagnostic criteria for lifetime dysthymia. Meyer et al. also explored 12-month prevalence of mood disorders in order to ascertain whether rates of lifetime depression and dysthymia were elevated in the older age group due to older respondents having lived more years. They still found significantly higher prevalence of major depression and dysthymia in older GLB people than in the younger age groups.

These results are difficult to compare with the results of studies on lesbian, gay and other homosexually active women and men as Meyer et al. (2008) did not analyse how gender and age interacted; thus, it is impossible to establish whether the tendency for higher rates of depressive disorders in older GLB people is more or less specific to women or men in this sample. Although the literature suggests that older lesbian and other homosexually active women may be at particular risk for depression, it also suggests that younger lesbian and other homosexually active women are at similar risk, which is contrary to the Meyer et al. study. As noted earlier, the literature points towards *lower* rates of depression for older gay or other homosexually active men when compared with their younger counterparts.³³

Some key data on GLB populations emerged from the 2007 *National Survey of Mental Health and Wellbeing*, in which the Australian Bureau of Statistics (2008) surveyed approximately 8,800 Australians and measured 12-month prevalence of anxiety disorders, affective disorders and substance use disorders (see below).³⁴ The survey also measured several demographic variables including sexual orientation.

33 It must be noted, though, that there is very little literature that explores depression in non-heterosexual people across different age categories.

34 The survey used the World Health Organization's (WHO) Composite International Diagnostic Interview (CIDI), based on DSM-IV criteria.



Compiled by *beyondblue* from the Australian Bureau of Statistics (2008)

According to the results, homosexual/bisexual respondents had higher levels of affective disorders (which include bipolar disorder, major depression and dysthymia) than heterosexual respondents (19.2 per cent vs. 6 per cent). Further, homosexual/bisexual respondents were more likely than heterosexuals to have suffered any mental disorder in the past 12 months (41.4 per cent vs. 19.6 per cent).

2.5.1 ARCSHS studies of general GLB populations

Private Lives and *Australian Longitudinal Study of Health and Relationships* (ALSHR) findings show significant proportions of homosexual people reporting poor mental health. These studies also show clear differences between the mental and general health of adult homosexual and heterosexual populations.

The *Private Lives* study of Australian GLB people used a modified version of the PRIME – MD (PHQ-9) (Spitzer et al. 1999) to measure study participants' mental health. This modified scale was used to enable comparison of respondents' psychological well-being between the *Private Lives* study sample and research undertaken by Rogers et al. (2004) in Adelaide. The mood component of PHQ-9 comprises nine items that tap typical physical and emotional symptoms of depression and ask respondents to report how often they were bothered by these in the previous two weeks. In reporting severity, respondents could answer 'not at all', 'several days', 'more than half the days', or 'nearly every day'. The modified version of the PHQ-9 did not measure frequency/severity, because dichotomous response categories (yes/no) were used to simplify the measure to capture a respondent's experience of the symptomology only. Significantly, almost half the sample (47.3 per cent) reported experiencing either 'little interest or pleasure in doing things' or 'feeling down depressed or hopeless'—two of the marker items where a positive response to either is used to identify depressed respondents on the PHQ-9. It should be noted, however,

that in the PHQ-9 only those reporting being bothered for 'more than half the days' are considered to have responded positively to these marker items, so the above estimate (as it relates only to experience and not severity) may overstate the proportion of people at risk of depression in the *Private Lives* study.

Private Lives respondents were also presented with a series of questions on any previous history of depression. A significant majority (73.9 per cent) reported having suffered depression at one point in their lives, and a third of respondents (33 per cent) said that in the past two years they had felt depressed or had little interest or pleasure in doing things more than half the time. Approximately half the sample (49.9 per cent) reported seeing a counsellor or psychiatrist in the past five years. There were no significant differences in these measures when comparing gay and lesbian with bisexual respondents.

When the *Private Lives* data were grouped using the same age groups as in Meyer et al. (2008) study discussed earlier, a negative association between age and current experience of depression was found, and this was largely consistent for both men and women. With the exception of poor concentration and suicidal ideation, across each Prime-MD item younger respondents were more likely to report depressive symptoms. Using the 18 to 29 year-old respondents as the reference category, logistic regression analysis showed that those aged 30 to 44 years (odds ratio = 0.78, $p < .001$), 45 to 59 years (odds ratio = 0.65, $p < .001$) and 60 years and over (odds ratio = 0.47, $p < .001$) were significantly less likely to have felt little interest or pleasure in doing things in the two weeks prior to the survey. Similarly, those aged 30 to 44 years (odds ratio = 0.69, $p < .001$), 45 to 59 years (odds ratio = 0.56, $p < .001$) and 60 years and over (odds ratio = 0.50, $p < .001$) were also significantly less likely to have felt down, depressed or hopeless in the past two weeks compared with younger respondents (18 to 29 years). A similar pattern was found for two-year history of depression with 30 to 44 (odds ratio = 0.87, $p < .05$) and 45 to 59 (odds ratio = 0.79, $p < .01$) year old respondents and those aged 60 years and over (odds ratio = 0.57, $p < .05$) significantly less likely than 18 to 29 year olds to report feeling depressed on half the days. It should be noted, however, that analysis of this association by sex revealed the association to be significant for women only.

Finally, respondents in the *Private Lives* study were also asked to rate their general health in the past year (on the SF-36). Approximately half the sample (50.1 per cent) reported either 'very good' or 'excellent' health in the past year. This proportion is lower than the same estimate for the general Australian population where 58.6 per cent of people aged between 18 and 64 rated their health as either 'very good' or 'excellent' (Australian Bureau of Statistics 2005).

Similar findings were taken from *ALSHR* data. The *ALSHR* study included questions that measured self-reported general and mental health (SF-8, Ware et al. 2001), diagnosis history and use of prescription drugs for clinical depression. General health was measured with a single item that asked respondents to rate their general health over the past four weeks as either 'excellent', 'very good', 'good', 'fair', 'poor', or 'very poor'. Mental health was also measured using a single question that asked respondents the extent to which they had been bothered by emotional health problems such as feeling anxious, depressed or irritable over the past four weeks. Respondents could respond 'not at all', 'slightly', 'moderately', 'quite a lot', or 'extremely'. Respondents were also asked whether they had been diagnosed with depression by a doctor and if they had ever been prescribed medication for this condition. There were no differences in self-reported general health by sexual identity. Respondents reporting 'excellent/very good' health were: heterosexual 56.7 per cent; homosexual 55.7 per cent; bisexual 55.1 per cent. There were, however, differences in doctor-diagnosed depression across sexual identity. Those identifying as homosexual (34.0 per cent, $F_{1,8639} = 9.74$, $p = .002$) and bisexual (43.8 per cent, $F_{1,8639} = 32.4$, $p < .001$) were

significantly more likely than heterosexual respondents (18.5 per cent) to report ever being diagnosed with depression. The difference between respondents identifying as homosexual and those identifying as bisexual was not significant ($F_{1,8639} = 1.51, p = 0.22$). Overall, 34.6 per cent of the *ALSHR* sample reported that they had taken prescription medication for depression. Although respondents identifying as homosexual (44.4 per cent) showed higher rates of ever taking prescription medication for depression than either heterosexual (34.5 per cent) or bisexual respondents (31.2 per cent), these differences were not significant ($F_{1,1726} = .98, p = .322$ and $F_{1,1726} = 1.10, p = 0.30$ respectively).

2.5.2 Summary on general GLB populations

The literature that samples general GLB populations in many ways confirms the various trends that have been identified in this report. The Meyer et al. (2008) study suggests that, in line with other findings, differing rates of depression within GLB samples may be attributable to variables such as bisexual or homosexual orientation, or age. Further, the results of the ARCSHS studies in Australia are very much in line with the results of studies included in the international review, pointing toward higher rates of depressive symptoms and poorer mental and physical health in non-heterosexual people when compared with heterosexual people. Similar to the Meyer et al. study, the ARCSHS studies also suggest that bisexuals have poorer mental health outcomes than both heterosexual and homosexual people on some (but not all) measures. The findings on age are harder to compare. Although Meyer et al. found that older GLB people are more prone to lifetime prevalence of major depression or dysthymia than younger GLB people, the *Private Lives* study found the reverse for current rates of depression and two year prevalence of depression (particularly for women in the latter case). Nevertheless, these findings appear to be consistent with other studies described in this review that show different rates of depression in different age categories according to prevalence time frame.



3. Risk and Protective Factors for Depression in Non-Heterosexual People

In the previous section, it is clear that there is an overall trend toward higher rates of depression and depressive symptoms in non-heterosexual people when compared with heterosexual people. Just as there may be specific risk factors for depression in heterosexual people, it is important to understand the various psychosocial processes that make non-heterosexual people more vulnerable to depression. In this section, the literature on risk and protective factors for depression in non-heterosexual people is reviewed.

There appears to be some confusion about what constitutes a risk factor for depression in non-heterosexual people—sexual orientation, or other factors that cause depression too. For instance, Cochran et al. (2007: 53) stated that, as lesbians and gay men often experience victimisation and discrimination, ‘homosexuality may be a risk factor for higher rates of psychological distress and some mental disorders’. It is important that non-heterosexual people do not become synonymous with risk, whereby sexual orientation itself becomes a causal factor for poor mental health rather than particular social processes that lead to distress, such as homophobia, victimisation and discrimination. One of the problems identified in the literature was a lack of research methodologies that allowed for the identification of causal factors for depression in non-heterosexual people. Several studies included multivariate analysis and correlation analysis, both of which can establish an association or relationship between variables, but neither can establish causality. Therefore, most findings in this section relate to potential predictors of depression and depressive symptoms in non-heterosexual people.³⁵

We begin by outlining some possible demographic predictors of depressive symptoms such as relationship status and residential context. Then, we move on to psychosocial processes such as the effects of social relationships and support, sense of belonging to community, and disclosure or concealment of sexual orientation. Finally, we discuss social risk factors for depression in non-heterosexual people, which include abuse, victimisation, stigma, and discrimination.

3.1 Relationship status

There is evidence to suggest that relationship status predicts both depressive symptoms and major depression in gay men and lesbians. Three studies sampling lesbians found that relationship status predicted past-year major depression (Bostwick et al. 2005) or current depressive symptoms (Ayala and Coleman 2000; Oetjen and Rothblum 2000). For instance, Ayala and Coleman (2000) recruited 117 lesbians from community groups and events in a western Canadian city and found that, according to the Generalised Contentment Scale, depressive symptom scores were significantly higher for lesbians not in a relationship than for those who were in a relationship. Further, Bostwick et al. (2005) found that being in a relationship appeared to be a protective factor for co-occurring 12-month prevalence of depression (according to DSM-III criteria) and alcohol dependence in 403 lesbians living in Chicago, USA.

Oetjen and Rothblum (2000) were interested in exploring risk factors for depressive symptoms in lesbians and in seeing how these were similar to or different from risk factors for depressive symptoms in heterosexual women. They recruited 167 lesbians through a convenience sampling frame that drew from community settings in 25 states in the USA. Oetjen and Rothblum found that for lesbians in their sample, much like for heterosexual women, relationship status predicted depressive symptoms, such that being in a relationship was correlated with lower depressive symptom scores on the CES-D, while being single

³⁵ Most of the studies reviewed in this section did not measure major depressive disorders according to DSM criteria and mainly refer to depressive symptoms.

was correlated with higher depressive symptom scores. They also found that unlike for heterosexual women, relationship satisfaction was not associated with depressive symptoms for lesbians in relationships. Oetjen and Rothblum did find, however, that satisfaction with relationship status significantly predicted depressive symptom scores, such that lesbians who were happier with their relationship status (being single or partnered) had fewer depressive symptoms than those who were not satisfied.

Relationship status also appears to predict depression and depressive symptoms in gay and other homosexually active men. Perdue et al. (2003) analysed data from a venue-based probability sample of 429 young gay and other homosexually active men, aged between 23 and 29, living in Seattle, USA. They found that men who were living with a sexual partner were significantly less likely to score above 16 on the CES-D than those living alone or with people who were not partnered. It is important to keep in mind that a cut-off of 16 may not necessarily indicate risk for major depression. Nevertheless, Mills et al. (2004) found similar results when applying a more conservative cut-off point from the CES-D. They found that in 2,678 gay and other homosexually active men living in four cities in the USA, not having a partner was associated with both distress (CES-D scores between 16 and 22) and high risk for major depression (CES-D scores of 23 or above). According to the Wang et al. (2007) study of 571 gay and other homosexually active men living in Geneva, Switzerland, relationship status also predicted 12-month prevalence of major depression. They found that men who were not in a relationship were twice as likely as those who were partnered to meet DSM-IV criteria for major depression, regardless of whether the latter were living with their partners or not.

Lewis et al. (2001) recruited 979 gay and lesbian people from community settings in Virginia, USA, and found that those in a relationship scored significantly lower depressive symptom scores on the CES-D (mean: 16.31) than those who were not in a relationship (mean: 22.06). McClaren et al. (2007) conducted a community-based study of 137 gay and 136 heterosexual men in Victoria, Australia, and found that according to the Depression Anxiety Stress Scales, relationship status predicted depressive symptoms more strongly than any other variables they explored, which included sense of belonging to the broader community. Further, this was true for both gay and heterosexual men.

3.1.1 Summary on relationship status

Being in a relationship appears to be a significant protective factor for non-heterosexual women and men; however, it is important to keep in mind that relationship status also appears to be an influential variable for heterosexual people. Further, although relationship status appeared as a strong predictor of depression and depressive symptoms in a variety of studies, other studies found that higher rates of depressive symptoms and major depression in non-heterosexual people persisted after factoring in potentially confounding demographic variables such as relationship status. Thus, not being in a romantic relationship is probably only one small part of the puzzle.

3.2 Residential context

Several studies presented findings on how location or residence (urban/metropolitan, suburban, rural) affected rates of depressive symptoms in non-heterosexual people. The results, however, were conflicting. In D'Augelli's (2002) international study of 542 non-heterosexual young people aged between 14 and 21, there were no significant differences between young people living in rural or metropolitan areas in terms of suicide attempt rates or Global Severity Index (an overall index of symptoms as measured on the nine subscales of the BSI). However, D'Augelli did not present findings specifically for depressive symptoms as measured on the depression subscale of the BSI. Oetjen and Rothblum (2000) did explore

how depressive symptoms measured on the CES-D varied in lesbians in the USA according to certain demographic variables; however, they found that residential context (urban, suburban or rural) was not associated with depressive symptoms.

Two other studies from the USA found that residential context did predict depressive symptoms in non-heterosexual people. According to Galliher et al. (2004) community context (urban, suburban, and rural) interacted with sex and sexual orientation to predict depression in young people. Using data drawn from ADDHealth, Galliher et al. found that, although depressive symptoms measured on the CES-D did not vary significantly in heterosexual young people according to their residence in urban, suburban or rural contexts, this was not the case for non-heterosexual young people. Further, they found that the relationship between community context and depressive symptoms differed for non-heterosexual young men and women. For instance, same-sex-attracted young men living in urban contexts had significantly more depressive symptoms than their other-sex-attracted counterparts. In suburban contexts depressive symptoms were higher for same-sex-attracted young men than for other-sex-attracted young men; however, this difference was not significant. Nor were there differences in depressive symptoms between these two groups in rural contexts. The results were slightly different for young women. Non-heterosexual young women living in suburban contexts, particularly those attracted to both sexes, had significantly more depressive symptoms than their heterosexual counterparts. Further, both same-sex-attracted and both-sex-attracted young women living in rural contexts had more depressive symptoms than those who were other-sex-attracted; however, this difference was not significant. Nevertheless, across the entire sample, non-heterosexual young women living in rural contexts had the highest depression scores on the CES-D.

Ullrich et al. (2002) studied a clinical sample of 121 HIV-positive people in Iowa, USA, in order to explore whether sexual orientation and residential context interacted with and affected depressive symptoms (measured on the CES-D) or levels of 'social constraint'. Social constraint refers to limitations in social relationships that may include negative attitudes from others or lack of support. Ullrich et al. found that there were no significant differences in rates of depressive symptoms or social constraint between HIV-positive gay/bisexual men and HIV-positive heterosexual men, or between men living in metropolitan or non-metropolitan areas. However, when Ullrich et al. explored interactions between variables, they found that gay/bisexual HIV-positive men living in non-metropolitan areas had significantly more depressive symptoms and social constraints than gay/bisexual HIV-positive men living in metropolitan areas. Further, they found that gay/bisexual HIV-positive men living in non-metropolitan areas had more depressive symptoms and social constraints than their heterosexual counterparts. According to Ullrich et al., it is possible that increased gay-related stress in non-metropolitan communities may make HIV-positive gay/bisexual men more vulnerable to depression than heterosexual HIV-positive men.

In Australia, there were some differences in mental health by residency in *Private Lives* data. GLB people living in rural/remote areas were more likely than those in metropolitan areas to report feeling depressed on more than half the days in the past two years (39.2 per cent vs. 31.8 per cent, $\chi^2(1) = 13.95$, $p < .001$) and were more likely to contemplate self-harm or feel they were 'better off dead' (21.0 per cent vs. 14.2 per cent, $\chi^2(1) = 20.52$, $p < .001$). Interestingly, when the effect of residency on mental health was specified by sexual identity, the relationship persisted only for homosexual people. There was no difference between bisexual people living in metropolitan areas and those living in remote/rural regions both in terms of two-year history of depression (36.7 per cent vs. 34.8 per cent, $\chi^2(1) = .10$, $p = .747$) and suicidal ideation and thoughts of self-harm (22.8 per cent vs. 20.1 per cent, $\chi^2(1) = .292$, $p = .589$).

3.2.1 Summary on residential context

It would appear that residential context does predict depressive symptoms in some non-heterosexual samples, particularly when factoring in other variables such as sex. Two studies suggested that non-heterosexual young people (particularly young women) and HIV-positive gay/bisexual men are more vulnerable to depression when living in rural or suburban contexts rather than metropolitan ones. Galliher et al. (2004) further suggested that both-sex-attracted young women may be at even further risk for depression. In contrast, the *Private Lives* study suggested that, although homosexuals living in rural areas were at significantly higher risk of depression and negative mental health outcomes than their metropolitan counterparts, the same pattern did not occur for bisexual respondents. It is impossible to establish any other effects of residential context on depression in bisexuals, as three out of the four studies from the international review described in this section either excluded bisexuals from analysis or collapsed them into gay or lesbian samples.

3.3 Social relationships and support

There is compelling evidence to suggest that supportive social relationships with peers, friends and family are strong protective factors for depression in non-heterosexual young people and adults. Bos et al. (2008) found that 13 to 15 year-old young people in The Netherlands who reported less acceptance from their peers had more depressive symptoms, and further, peer acceptance and peer role strain accounted for considerable variance in depressive symptom scores. Indeed, Bos et al. suggested that higher rates of depressive symptom scores in same-sex-attracted young people, when compared with other-sex-attracted young people, was the outcome of the former's poorer relationships with both peers and fathers.³⁶ Williams et al. (2008) found similar results in their school-based convenience sample of 1,598 Canadian young people. According to Williams et al., non-heterosexual young people reported less social support than heterosexuals and less closeness with mothers and best friends. Further, they found that social support had a mediating effect, such that, when it was factored in, sexual orientation no longer significantly predicted depressive symptoms on the BDI.

These results are consistent with the Lam et al. (2004) study of young people in Hong Kong. They found that poor family relationships were associated with higher levels of depressive symptoms for all young people and, further, given same-sex-attracted young people reported poorer family relationships, they also had significantly more depressive symptoms than other-sex-attracted young people. This was true for both same-sex-attracted young women and men, but was stronger for the former. Lam et al. also found that peer relationships for young women (but not for young men) predicted depressive symptoms and; further, those who were not sure of or questioning their attraction had poorer peer relationships than same-sex- or other-sex-attracted young people. It appears that, for young people in general, poorer peer and family relationships are associated with an increase in depressive symptoms. Further, same-sex-attracted and 'questioning' young people appear to have poorer peer and family relationships than other young people, and thus have elevated levels of depressive symptoms.

It is interesting to note that according to the Lam et al. (2004) study, whereas poor family relationships are predictive of depressive symptoms in young men and women, poor peer relationships may be a stronger risk factor for depression in young women. Indeed, there is evidence in the literature to suggest that social support from friends is also a significant protective factor for depression in lesbian adults. Ayala and Coleman (2000) found that although social support from family significantly predicted depressive

³⁶ The authors did not, however, explore whether young people had disclosed their sexual orientation to peers and family, and so it is impossible to ascertain whether poor social relationships were associated with 'coming-out' to friends and family and/or with rejection of participants' sexual orientation.

symptoms on the Generalised Contentment Scale, social support from friends was the most important variable in predicting depression in lesbians. Oetjen and Rothblum (2000) found the same pattern: although family support was significantly correlated with depressive symptoms on the CES-D, higher levels of support from friends were more strongly correlated with lower levels of depressive symptoms in lesbians. Further, Oetjen and Rothblum found that for lesbians in a relationship, family support ceased to predict depressive symptoms and social support from friends was the only significant predictor of depressive symptoms. Interestingly, Luhtanen (2003) found that in a sample of GLB people, social support from heterosexual friends was not associated with fewer depressive symptoms measured on the CES-D in lesbian and bisexual women. In contrast, Luhtanen (2003) found that support from heterosexual friends did predict lower depressive symptoms in gay and bisexual men.

Curiously, there were no findings on the relationship between social support and depression in non-heterosexual adult men, other than Luhtanen's (2003) finding noted above that support from heterosexual friends was associated with lower depressive symptoms in gay/bisexual men. Further, there were few findings on how social support might predict depression in bisexual people. Two Australian studies (McNair et al. 2005; Jorm et al. 2002) analysed bisexuals separately from homosexuals. McNair et al. (2005) found that in their younger cohort (aged 22 to 27 years), although bisexual and mainly heterosexual women reported slightly less social support than lesbian and heterosexual women, these differences were not significant. For the mid-age cohort (aged 50 to 55 years), bisexual and mainly heterosexual women reported less social support than exclusively heterosexual women (the difference between exclusively and mainly heterosexual women was significant) and lesbian women reported slightly higher levels of social support than exclusively heterosexual women. Even though depressive symptoms were higher and levels of social support were lower for bisexual and mainly heterosexual women, no predictive relationship was established as McNair et al. did not explore how these variables interacted. McNair et al. did, however, find that social support (along with stress and experience of abuse) was one factor that when controlled for attenuated the effect sexual identity had on mental health. These findings suggest that bisexual people may experience higher levels of social marginalisation, and that this in turn may contribute to the poorer levels of mental health exhibited by this group.

In the case of the Jorm et al. (2002) representative study of adults in Canberra, Australia, the authors did explore how social support predicted depression in non-heterosexual people and, further, they analysed bisexual people separately from homosexual people; however, they did not do a separate analysis for men and women. Nevertheless, Jorm et al. found that homosexuals and bisexuals reported having significantly less support from family than heterosexual respondents, and bisexuals also had more negative support from friends than heterosexuals. When Jorm et al. entered risk factors such as friend and family support, childhood adversity, and adverse life events etc., into regression models, they found that differences in depressive symptoms between heterosexuals and homosexuals became insignificant; however, differences between bisexuals and the other sexual orientation groups remained significant.

3.3.1 Summary on social support

Social support from peers, friends and family emerges as a protective factor against depressive symptoms in most non-heterosexual samples. It appears that poor peer and family relationships predict increased levels of depressive symptoms in young people in general, and since non-heterosexual young people have poorer relationships with their peers and families they typically have significantly more depressive symptoms than heterosexual or other-sex-attracted young people. There were few findings specifically on the effects of social support on depression in gay and other homosexually active men; however, it appears that for lesbians support from friends, particularly lesbian friends, is a stronger

protective factor against depressive symptoms than family support. There is further evidence to suggest that bisexual people may receive less social support than both heterosexuals and homosexuals, which may contribute to their consistently poorer mental health outcomes in the literature.

3.4 Sense of community belonging

Only a few studies explored sense of belonging in non-heterosexual people and how belonging to a school community, to the broader community, or to the GLB community, might affect depressive symptoms. Galliher et al. (2004) analysed data from wave two of ADDHealth, a longitudinal study of young people in the USA, and explored sense of school belonging and depressive symptoms measured on the CES-D. They found that other-sex-attracted young people had higher levels of school belonging than either same-sex-attracted or both-sex-attracted young people. There was no difference between same-sex- and both-sex-attracted young people in terms of school belonging and, overall, non-heterosexual young women reported the lowest rates of school belonging. As already noted in the previous section on prevalence rates of depression, same-sex- and both-sex-attracted young people had significantly higher rates of depressive symptoms than other-sex-attracted young people. Unfortunately, however, Galliher et al. did not explore whether there was an association between sense of school belonging and depressive symptoms in same-sex- and both-sex-attracted young people.

A series of publications (McLaren 2006; McLaren et al. 2007; McLaren et al. 2008) based on research conducted in Victoria, Australia, sheds considerable light on the relationship between sense of community belonging and depressive symptoms in non-heterosexual people. McLaren (2006) recruited 184 lesbians and 202 heterosexual women through a community-based, convenience sampling frame and was interested in exploring how sexual orientation, depressive symptoms (measured on the Depression Anxiety Stress scales) and sense of belonging to the broader community (i.e. a predominantly heterosexual one) interacted. McLaren found that although sexual orientation and sense of belonging both independently predicted depressive symptoms in women, these two variables also interacted such that sense of belonging mediated the association between sexual orientation and depressive symptoms, suggesting that lesbians' depressive symptoms occurred as a result of belonging less to the general community. Further, McLaren found that the relationship between sense of belonging and depressive symptoms was stronger for lesbians than for heterosexual women.

McLaren et al. (2007) employed exactly the same methodology outlined above to a sample of 137 gay men and 136 heterosexual men and found somewhat different results. They found that the relationship between sense of belonging and depressive symptoms was the same for gay men and heterosexual men and, further, that although sense of belonging to the general community did independently predict depressive symptoms in men, sexual orientation did not. There was only one significant interaction between the three key variables, showing that sense of belonging mediated the relationship between sexual orientation and depressive symptoms, such that gay men had more depressive symptoms than heterosexual men, and this was largely due to gay men feeling less sense of belonging.

McLaren et al. (2008) did further analysis on the sample of 137 gay men in order to explore how sense of belonging to the gay community affected depressive symptoms, and whether it interacted with sense of belonging to the general community. They found that sense of belonging to both the general community and the gay community independently predicted depressive symptoms. Further, both types of belonging partially mediated one another's relationship with depressive symptoms, such that gay men who reported more sense of belonging to the general community also reported more feelings of belonging to the gay community, and vice versa. Further, both of these types of belonging were then associated with fewer

depressive symptoms. The finding that feeling a sense of belonging to the gay community is a protective factor against depressive symptoms in gay men is consistent with the Mills et al. (2004) study, which found that, in a sample of 2,678 gay and other homosexually active men living in four cities in the USA, feeling alienated from the gay community was significantly associated with both distress (a CES-D score between 16 and 22) and high risk for depression (a CES-D score of 23 or above).

Although two additional studies (Lewis et al. 2001; Smith and Ingram 2004) from the USA did not measure sense of belonging to the GLB community, they did measure whether participants were associated with the GLB community or GLB community organisations. In a sample of 979 gay and lesbian people, Lewis et al. found that participants who were involved in GLB community organisations had significantly lower depressive symptom scores on the CES-D. In a sample of 97 gay, lesbian and bisexual people, Smith and Ingram (2004) also found that being involved with the gay community was associated with lower depressive symptom scores measured on the CES-D.

In Australia, in the *Private Lives* study, community connectedness was measured with two questions pertaining to peoples' perceived position in both GLBTI and broader social communities. Respondents were asked how connected they felt to each of the communities and could respond either 'very', 'mostly', 'somewhat', 'rarely', or 'not at all'. Results showed that *Private Lives* respondents who reported lower levels of community connectedness to both the GLBTI and broader communities were more likely to report poorer mental health. People who rated themselves as either 'somewhat', 'rarely' or 'not at all' connected to the GLBTI community were more likely to have felt little interest or pleasure in doing things (35.6 per cent vs. 23.6 per cent, $\chi^2(1) = 69.81$, $p < .001$) and felt down, depressed or hopeless (44.0 per cent vs. 32.7 per cent, $\chi^2(1) = 55.7$, $p < .001$) in the two weeks prior to being interviewed—the two marker items on the Prime-MD. Moreover, this group of respondents exhibited poorer mental health on all of the other remaining Prime-MD items. The same pattern was observed for GLB respondents' level of connectedness to the broader community, with those exhibiting lower levels of community connectedness ('somewhat', 'rarely' or 'not at all') reporting significantly poorer mental health on all of the Prime-MD scale items. Respondents with lower levels of community connectedness, to both the GLBTI and the broader community, were also significantly more likely to report a history of depression. A higher proportion of those who said they felt only 'somewhat', 'rarely' or 'not at all' connected to their GLBTI or broader social communities reported feeling depressed on more than half the days over the past two years compared with those who were 'very' or 'mostly' connected to their community (GLBTI: 34.3 per cent vs. 28.4 per cent, $\chi^2(1) = 17.04$, $p < .001$; Broad: 39.2 per cent vs. 26.8 per cent, $\chi^2(1) = 90.99$, $p < .001$).

3.4.1 Summary on sense of community belonging

It would appear that feeling that one belongs to a community is a protective factor against depression in both heterosexual and non-heterosexual people; however, the publications by McLaren and her colleagues suggested that both lesbians and gay men reported lower sense of belonging to the general community than heterosexuals and this led to significantly more depressive symptoms. Feeling a sense of belonging to the GLB community or participating in GLB community organisations also appears to be an important protective factor against symptoms of depression in GLB people. The *Private Lives* study found the same results, strongly confirming that GLB people with stronger feelings of connectedness to the general and GLB community have better mental health outcomes than those who feel disconnected from these communities. Indeed, as Meyer (2003: 677) suggests, sense of belonging is probably linked to 'group solidarity and cohesiveness', which can be important ways of coping with minority stress.

3.5 Disclosure of sexual identity

Most studies on non-heterosexual young people measure same-sex attraction; yet only one study explored how disclosure of sexual identity affected depressive symptoms in young people. D'Augelli (2002) found a relationship between depressive symptoms and disclosure of sexuality in young people aged between 14 and 21, in that young people who did not disclose their sexuality were significantly more likely to have higher depressive symptom scores on the BSI. D'Augelli found that, for young GLB people, disclosing their sexual orientation to their families and friends was 'extremely troubling' for between 22 per cent and 23 per cent of the sample, and 'very troubling' for 19 per cent. He also found that mother's knowledge and reaction to sexual orientation was associated with depressive symptoms (there was no effect for fathers), and that depression scores for young people whose parents rejected their sexuality were significantly higher than for those with accepting parents.

The findings on non-heterosexual adults are slightly contradictory. Ayala and Coleman (2000) found that, although sexual orientation disclosure did not explain as much of the variance in depressive symptoms as variables such as perceived support from family and friends and relationship status, it still significantly predicted depressive symptoms in a sample of 117 lesbians. In contrast, Oetjen and Rothblum (2000) found that sexual orientation disclosure to work peers, friends or family members was not correlated with depressive symptoms measured on the CES-D in a sample of 167 lesbians. There was only one study that measured how sexual orientation disclosure interacted with depressive symptom scores in gay men: Frost et al. (2007) conducted a street intercept survey at two GLB community events in New York City and recruited 594 gay men aged between 18 and 77, and found that concealing one's sexual orientation was associated with higher depressive symptom scores on the CES-D.

There were conflicting results in three studies that sampled gay, lesbian or bisexual individuals (Lewis et al. 2003; Smith and Ingram 2004) and gay and lesbian individuals (Lewis et al. 2001). Lewis et al. (2003) found that in a sample 204 GLB people recruited through community settings in South-Eastern Virginia, USA, there was no association between sexual orientation disclosure and depressive symptoms on the CES-D. In contrast, Smith and Ingram (2004) found that, in a sample of 97 GLB people, although disclosing one's sexual orientation at work was not significantly associated with depressive symptoms on the CES-D, disclosing one's sexual orientation in general was associated with lower depressive symptom scores. Lewis et al. (2001) found that in a sample of 979 gay and lesbian men and women, also recruited from community settings in Virginia, CES-D depressive symptom scores were associated with degree of sexual orientation disclosure, such that those people who carefully concealed their sexual orientation had the highest CES-D depressive symptom scores and those who were extremely open about their sexual orientation had the lowest depressive symptom scores. Neither of these two studies presented findings on the relationship between depression and sexual orientation disclosure separately for men and women. There were two studies that sampled gay and other homosexually active men, which also explored how identification as gay, bisexual, queer or homosexual affected rates of depression. For instance, Mills et al. (2004) found that lack of gay identification was associated with both distress (CES-D scores between 16 and 22) and high risk for depression (CES-D scores of 23 or above). Perdue et al. (2003) also found that CES-D scores were significantly higher for homosexually active men who did not identify as gay or bisexual.

3.5.1 Summary on disclosure of sexual identity

The literature that examined disclosure of sexual orientation and its effects on depressive symptoms reveals contradictory results. Disclosing one's sexual identity may be a protective factor for depressive symptoms by lowering sense of isolation from the GLB community (Oetjen and Rothblum 2000). It is

possible that concealing one's sexual identity might also be a coping mechanism or even a protective factor against depressive symptoms, by allowing non-heterosexual people to avoid discrimination, victimisation and stigmatisation (Frost et al. 2007). However, as Meyer (2003) notes, this form of coping may ultimately increase stress in non-heterosexual people, potentially leading to depression. It must be noted that most of the studies described above recruited non-heterosexual men and women through community settings; thus, there may have been some degree of sampling bias given that participants engaging in GLB community events were more likely to be 'out'.

3.6 Abuse and victimisation

A variety of studies clearly show that a history of abuse and victimisation is associated with depressive symptoms in non-heterosexual people, particularly young people. D'Augelli (2002) found that an international sample of 542 non-heterosexual young people aged between 14 and 21 reported disturbingly high rates of verbal, physical and sexual victimisation:

...81 per cent of the youths reported having been verbally abused based on their sexual orientation over the course of their lives, 38 per cent have been threatened with physical attack, 22 per cent have had objects thrown at them, 15 per cent have been physically assaulted, 6 per cent have been assaulted with a weapon, and 16 per cent have been sexually assaulted. Importantly, more than half of the sample (54 per cent) had been subjected to three or more incidents. (447)

According to D'Augelli, young men reported higher rates of verbal abuse, having had objects thrown at them, sexual assault, and having had been threatened with violence than young women; however, the only significant difference between the sexes was the threat of physical violence. Further, young men scored significantly higher than young women on overall lifetime victimisation.

When D'Augelli (2002) explored correlations between victimisation experiences and mental health problems measured on the BSI, he found that depressive symptoms were significantly correlated with young people's experiences of lifetime victimisation, verbal abuse, threat of attack, and physical and sexual assault. Depressive symptoms were also correlated with young people having lost friends because of their sexual orientation. Further, D'Augelli found a significant relationship between young people's losing friends because of their sexual orientation and attempted suicide. When exploring how young people's fears of victimisation based on their sexual orientation affected mental health, D'Augelli found that depressive symptoms were significantly predicted by fear of losing friends, verbal abuse at home and overall victimisation.

Williams et al. (2005) explored the relationship between experiences of peer victimisation and depression in a sample of 97 gay, lesbian, bisexual and questioning (GLBQ) young people and 97 heterosexual young people in Canada, and found that the GLBQ group reported significantly more experiences of bullying in the last two months and sexual harassment than the heterosexual group. Gay, lesbian and bisexual young people also reported more physical victimisation from their peers than heterosexual young people, and questioning young people scored in between; however, these differences were not statistically significant. Young people questioning their sexual orientation experienced slightly higher rates of bullying than GLB young people but this difference was also not statistically significant. When Williams et al. controlled for victimisation experiences, they still found a relationship (albeit a less significant one) between sexual orientation and depressive symptoms, suggesting that victimisation did not fully account for mental health difficulties in GLBQ young people. However, they also found that the predictive power

of victimisation and reduced social support for depressive symptoms in GLBQ young people lessened when the two interacted, suggesting that social support may ameliorate the effects of victimisation on depressive symptoms.

The abuse and victimisation experienced by non-heterosexual young people in the USA and Canada appears to also be common in Australia. In the ARCSHS study *Writing Themselves In Again*, amongst other questions, young non-heterosexual respondents were asked to rate their level of satisfaction with their lives, how they felt about themselves, if they had ever considered or succeeded in harming themselves, and also whether they had suffered abuse related to their sexuality. In terms of self-harm, significantly, over a third of the sample (36.1 per cent) said that they had either considered or succeeded in harming themselves as a result of their experience of homophobia. Also significant was the considerable proportion of young people reporting abuse as a consequence of their sexuality. A substantial number of the sample reported experiencing either verbal (44 per cent) or physical abuse (16 per cent).

Three studies explored the relationship between victimisation and symptoms of depression in adult gay and other homosexually active men in the USA. Perdue et al. (2003) found that a history of rape or forced sexual contact significantly predicted risk for depression on the CES-D (a score of 16 or higher) in a sample of 429 young men aged 23 to 29. Having been the victim of physical threats or violence due to sexual orientation also significantly predicted symptoms of depression. Mills et al. (2004) found similar results. They found that in a sample of 2,678 gay and other homosexually active men, anti-gay harassment before the age of 16 was significantly associated with depressive distress (a score between 16 and 22 on the CES-D) but not with high risk for depression (a score of 23 or above on the CES-D). They propose that:

Perhaps early anti-gay harassment is more likely to produce anxiety disorders or adjustment disorders. It may also produce external objects (e.g. homophobes or gay bashers) at which anger, which otherwise might be self-directed (leading to depression), might be outwardly directed, reducing the propensity toward depression. (283).

Nevertheless, a propensity toward both distress and high risk for depression was significantly associated with multiple and more recent experiences (i.e. in the last five years), of anti-gay violence (Mills et al. 2004). Lewis et al. (2001) explored a sample of 979 gay and lesbian people recruited from community settings in Virginia, USA, and found that higher depressive symptom scores were significantly associated with a variety of gay-specific stressors, including experiences and fear of violence and harassment because of sexual orientation. Further, Lewis et al. (2001) found that gay men were more likely than lesbians to report stressors associated with violence.

Only one study explored the relationship between abuse and depression specifically in lesbian or bisexual women. Cooperman et al. (2003) found that in a sample of 373 HIV-positive women, recruited from both community and clinical settings in New York City, lesbians and bisexuals reported significantly higher levels of all types of past abuse (child physical and sexual abuse, and adult physical and sexual abuse) than heterosexual women. Further, all types of abuse except for adult physical abuse were associated with significantly higher depressive symptom scores. It is interesting, therefore, that CES-D depressive symptom scores did not differ between non-heterosexual and heterosexual women. According to Cooperman et al., this is probably due to high depressive symptom rates across the whole sample and also potentially due to lesbian and bisexual women reporting higher rates of social support than heterosexual women, which may have buffered the relationship between abuse and depression.

McNair et al. (2005) also compared rates of abuse between heterosexual and non-heterosexual Australian women, but did not explore the relationship between abuse and depression rates. Nevertheless, they found further evidence to suggest that non-heterosexual women report much higher rates of abuse than heterosexual women. McNair et al. found that in both their younger and mid-aged cohorts, non-exclusively heterosexual women were significantly more likely to report a history of abuse than exclusively heterosexual women. There was little difference in rates of abuse between the non-heterosexual groups in the younger cohort (i.e. 64.9 per cent of mainly heterosexual women, 64.8 per cent of bisexual women, and 61.8 per cent of lesbians women, compared with 37.8 per cent of exclusively heterosexual women). In the mid-age cohort, however, bisexual women (74.8 per cent) reported the highest rates of abuse compared with mainly heterosexual (50.4 per cent), lesbian (57.1 per cent) and exclusively heterosexual women (36.2 per cent). Although McNair et al. (2005) did not explore the association between abuse and symptoms of depression, these results are nonetheless consistent with a pattern in their research that identifies more adverse outcomes for non-heterosexual women, particularly bisexual women.

3.6.1 Summary on abuse and victimisation

A history of verbal, sexual and/or physical victimisation and abuse appears to be associated with higher levels of depressive symptoms in non-heterosexual people; and, further, non-heterosexual young people appear to be at particularly high risk of having experiences of victimisation. Further, there is evidence to suggest that same-sex-attracted adolescent boys and gay men are subjected more frequently to physical violence than their female counterparts and; further, fear of and experiences of anti-gay violence in adulthood are particularly strong predictors of depressive symptoms in gay and other homosexually active men. It is difficult to establish a relationship between non-heterosexual women's rates of depression and victimisation because of sexual orientation as the literature that samples women more often refers to physical or sexual abuse without acknowledging whether this abuse has occurred in response to women's sexual orientation. Nevertheless, rates of abuse in non-heterosexual women appear to be high.

3.7 Stigma and discrimination

Much of the literature on the effects of stigma and discrimination on depression in non-heterosexual people draws from a minority stress model. According to Meyer (2003), this model posits that, although, according to psychological theory, stress arises from personal events (such as moving house or ending a relationship), conditions in the social environment can also be important sources of stress. In the case of sexual minority people, these social conditions include homophobic prejudice, stigma and discrimination.³⁷ For Meyer, minority stress is specific to stigmatised people and is an additional type of stress over and above general life stressors experienced by non-stigmatised people. Further, minority stress is 'socially based' and is related to 'chronic' social structures that are beyond the control of individuals who are subjected to it (676). The minority stress model posits that non-heterosexual people experience stigma, prejudice and discrimination, which may then lead to psychological distress or mental disorder. Meyer makes a distinction between 'distal' and 'proximal' sexual minority stress processes, which range on a continuum between objective social events, on the one hand, and the subjective interpretation or psychological understanding of those events, on the other hand. A discriminatory act or event (such as firing a gay man from his job because of his sexual orientation) is classed as 'distal', whereas the perception or interpretation of discrimination, or consciousness or internalisation of stigma and prejudice, is classed as 'proximal' (i.e. distal or proximal to the self).³⁸

³⁷ Please note that although we have avoided using the term 'sexual minority' throughout the report, we use it in this section when referring to minority stress models or statements made by authors who work specifically with minority stress models.

³⁸ Note that according to Meyer (2003) concealment of one's sexual orientation is also a proximal stressor.

Four studies examined the effects of 'distal' discriminatory acts and events on depressive symptoms in non-heterosexual people. Ramirez-Valles et al. (2005) explored the connection between lifetime experiences of homosexual stigma (e.g. being verbally or psychologically mistreated because of sexual orientation, or being told that homosexuality is abnormal) and psychological well-being in a sample of 155 HIV-positive Latino gay men recruited through community settings in New York City and Washington DC. They found that, after controlling for potentially confounding demographic factors, depressive symptoms measured on the BDI were positively associated with lifetime experiences of homosexual stigma. Ramirez-Valles et al. also found that community involvement in HIV and gay-related issues and organisations was negatively associated with depressive symptoms and appeared to compensate for the association between experience of homosexual stigma and depressive symptoms.

Lewis et al. (2001) explored how gay-related stressors associated with discrimination were associated with depressive symptoms in a sample of 979 gay and lesbian adults sampled from community settings in Virginia, USA. In particular, Lewis et al. examined general discrimination (which included lack of access to mental health, housing and social services) and work-related discrimination (which included actual and potential job loss) because of sexual orientation. They found that both general and work-related discrimination because of non-heterosexual sexual orientation was significantly associated with higher depressive symptom scores measured on the CES-D.

Smith and Ingram (2004) recruited 97 self-identified gay, lesbian and bisexual people from community settings and snowball referrals in two mid-Atlantic cities in the USA. They were interested in examining GLB people's experiences of workplace heterosexism in the past 12 months (for instance, being asked to act straight, or being called names such as 'dyke' or 'faggot') and the effects of these heterosexist experiences on psychological well-being and depressive symptoms measured on the CES-D. Smith and Ingram found that although heterosexist workplace experiences were not common in their sample, experiences of heterosexism in the workplace were significantly associated with higher depressive symptom scores on the CES-D.

Clearly, these studies suggest that discrimination based on sexual orientation leads to depressive symptoms and negative mental health outcomes for non-heterosexual people. Yoshikawa et al. (2004) found, however, that racial discrimination may be a stronger predictor of depression in some non-heterosexual ethnic minority groups. Yoshikawa et al. explored perceived discrimination in a sample of 192 gay Asian-Pacific Islander men recruited from community settings and a group intervention in the USA. They measured experiences of discrimination on three scales—homophobia, racism, and anti-immigrant—and measured depressive symptoms with the CES-D. Yoshikawa et al. found that neither homophobic discrimination nor anti-immigrant discrimination were significantly associated with higher depressive symptoms. However, having experienced racist discrimination did predict significantly higher depressive symptom scores among Asian-Pacific Islander gay men. It is problematic to generalise this finding as Asian-Pacific Islander gay men comprise a very small sub-sample of the overall non-heterosexual community in the USA. There were no studies that explored how homophobic and/or racial discrimination affected White or other ethnic minority (e.g. Native, Latino or African American) gay, lesbian or bisexual people in the USA.

Overall, there were few studies on the effects of homophobia and discriminatory acts or events (i.e. distal processes) on depressive symptoms in non-heterosexual people. There were, however, almost twice as many studies on what Meyer (2003) refers to as ‘proximal’ discrimination processes. For instance, two studies explored how certain psychological traits mediated gay men’s perception of discrimination. According to Huebner et al. (2005), whether one perceives discrimination or not may depend on one’s own personality characteristics, and, moreover, denying this might lead to exaggerating the relationship between discrimination and mental health problems. Huebner et al. analysed data from a community sample of 350 gay and other homosexually active men in Arizona, USA, who participated in a study on the use of HIV prevention services. Huebner et al. were particularly interested in exploring the effects of hostility and neuroticism on the relationship between perceived discrimination and depressive symptoms.³⁹ They found that hostility and neuroticism accounted for 42.7 per cent of the relationship between discrimination and depressive symptoms; however, after they controlled for hostility and neuroticism, discrimination still significantly predicted depressive symptoms. Huebner et al. admit that one problem with their study is the issue of cause and consequence. The authors treated hostility and neuroticism as ‘predisposing factors’ (734) that could cause confounding effects on the relationship between discrimination and depression. However, they note that it is possible that hostility may be a consequence of past discrimination and, further, neuroticism may not be a personality trait but a consequence of feeling depressed.

Zakalik and Wei (2006) were also interested in how individual characteristics might confound the relationship between discrimination and depression. Specifically, they explored how patterns of adult attachment might mediate or moderate the relationship between discrimination and depression in gay men. They recruited 234 gay men through community settings in the USA and measured depressive symptoms with a short version of the CES-D, and also with the depression subscale from the Depression, Anxiety and Stress Scales–Short Form. Zakalik and Wei refer to two adult attachment patterns: attachment anxiety (characterised by insecurity and fear of abandonment); and attachment avoidance (characterised by a fear of attachment to others). The authors found that perceived discrimination, attachment anxiety and attachment avoidance all independently predicted depressive symptoms in gay men. When exploring interactions between variables, Zakalik and Wei found that perceived discrimination was strongly associated with attachment anxiety and, further, mediated the relationship between depressive symptoms and attachment anxiety such that gay men with higher rates of attachment anxiety were more likely to perceive discriminatory events that then led to more depressive symptoms. The results were less conclusive for gay men with attachment avoidance. Attachment avoidance was hypothesised to have a negative relationship with perceived discrimination; however, this was only the case when attachment anxiety was also included in the model. In other words, gay men with attachment avoidance were only likely to ignore discriminatory events if they also had attachment anxiety. According to Zakalik and Wei, it is possible that gay men with attachment avoidance want to disengage from discriminatory acts but may be unable to do this successfully due to having a ‘negative working model of self’ (310).

Zakalik and Wei (2006) also suggest that identifying attachment patterns can help in more effectively guiding clinical practitioners to counsel gay men with depression due to discrimination. For instance, they found that perceived discrimination mediated the relationship between attachment anxiety and depressive symptoms, so Zakalik and Wei suggest that clinical practitioners could help their clients with depression by changing their thinking and behavioural patterns associated with their attachment anxiety. What was

39 According to Huebner et al. (2005), hostility is a trait by which people devalue or wish harm to others, and neuroticism is a trait in which people have a tendency toward negativity and distress.

rather puzzling in both studies was the lack of reference to any form of social intervention that might reduce the main culprits: discrimination and discriminatory acts. Indeed, discriminatory acts themselves were completely absent from analysis.

According to Meyer (2003), exploring proximal processes requires examining how sexual minority people come to expect discrimination, and how they may internalise negative stereotypes and homophobic attitudes. Several studies measured these sorts of proximal processes, such as 'personalised stigma', 'stigma consciousness' and 'internalised homophobia'. For instance, Frost et al. (2007) found that in a sample of 594 gay men in New York City, personalised stigma (i.e. an individual's awareness of gay stigma and its social consequences) was associated with higher depressive symptom scores on the CES-D. Lewis et al. measured stigma consciousness (which, like 'personalised stigma', refers to how much a non-heterosexual individual expects to be stigmatised and stereotyped based on their sexual orientation) and found that it significantly predicted depressive symptoms on the CES-D. Lewis et al. also explored internalised homophobia (the internalisation of negative stereotypes associated with non-heterosexual orientation), but found that it did not significantly predict depressive symptoms in GLB people in their sample.

Although Lewis et al. (2003) did not find a connection between internalised homophobia and depressive symptoms in GLB people, several other studies did find a relationship between these two variables. Igartua et al. (2003) recruited 197 GLB people from both clinical and community settings in Montreal, Canada, and were interested in exploring the relationship between internalised homophobia and psychological distress. Igartua et al. found that internalised homophobia (particularly in relation to attitudes about one's own sexuality as opposed to other homosexual people's sexuality) was correlated with depressive symptoms measured on the BDI. Further, negative attitudes about one's own sexuality predicted 18 per cent of the variance in depressive symptom scores.

Szymanski et al. (2001) were also interested in exploring the effects of internalised homophobia on psychosocial well-being, and they did so with a sample of 157 lesbian/bisexual women. They recruited women aged between 18 and 74 from a range of community settings in the USA, and through personal networks. Szymanski et al. found that internalised homophobia in lesbian/bisexual women was correlated with high levels of depressive symptoms on the Zung Self-Rating Depression Scale. Gold et al. (2007) found the same result in a sample of 74 gay men sexual assault survivors recruited from community events and organisations in a north-eastern region of the USA. Gold et al. did not find significant depressive symptom differences (measured on the BDI-II) between gay men who had experienced child sexual abuse, adult sexual abuse, or both types of abuse; however, they did find that internalised homophobia was associated with higher depressive symptom scores in this sample.

Luhtanen (2003) did not measure internalised homophobia in her study of gay, lesbian and bisexual individuals aged 19 to 73 but, rather, chose to examine non-heterosexual people's positive self-identities and rejection of negative stereotypes, and how these variables related to psychological well-being. Luhtanen recruited 168 lesbian and bisexual women, and 152 gay and bisexual men from community settings in the Greater Buffalo area in the USA. She found that depressive symptoms measured on the CES-D were significantly lower for gay/bisexual men and lesbian/bisexual women who were positive about their sexual identities and who rejected negative stereotypes about GLB people.



3.7.1 Summary on stigma and discrimination

Overall, the literature suggests that higher depressive symptoms in non-heterosexual people are associated with both ‘distal’ discriminatory events and ‘proximal’ processes whereby discrimination and negative stereotypes are internalised; however, the literature on the effects of discrimination on depression in non-heterosexual people is predominantly focused on the latter, particularly on the effects of internalised homophobia. Fewer findings were found on discriminatory acts or events themselves. Indeed, studies on sexual discrimination appear to be absent from the literature on depression in the last eight years, or at least have taken a back seat to research that directs the focus back onto the psyches of non-heterosexual people themselves rather than exploring the social root of the problem—stigma and homophobia.

4. Interventions

Overall, the literature points towards a strong tendency for non-heterosexual people to exhibit higher rates of depression and depressive symptoms than heterosexual people. Further, there is evidence of a variety of potential risk factors for depression among non-heterosexual people, such as not having a partner, living in rural contexts, poor peer and family relationships, low levels of social support, lack of sense of belonging to community, concealment of sexual identity, and experiences of homophobia, discrimination and victimisation. Several studies that explored these risk factors noted the potential for interventions that could lead to the improvement of mental health indicators in non-heterosexual people. Nevertheless, there were only two intervention studies that targeted depression in these people.

One intervention study examined how increasing social support and availability of gay and lesbian confidants and friends affected depressive symptoms in young lesbian and gay people who attended GLB holiday camps in Belgium. Vincke and Van Heeringen (2002) conducted a short-term longitudinal study of 197 lesbian and gay young people (aged between 15 and 26) who had participated in one of three yearly GLB holiday camps. They collected data from participants of all three camps, asking participants to fill out questionnaires at the start of the camp and again six months later. Vincke and Van Heeringen were particularly interested in exploring how confidant support from other non-heterosexual people contributed to mental well-being. They found that increased happiness with gay and/or lesbian friendships and support between the two times was significantly associated with a decrease in depressive symptoms at time two according to the depression subscale of the GHQ. An increase in number of confidants between the two times was also associated with significantly less depressive symptoms at time two.

It is important to note that, according to Vincke and Van Heeringen (2002: 190), young adults in their sample were mostly open with their family and friends about their sexual orientation, and mostly felt that their parents accepted their sexual identities; thus, an ‘...already positive situation improved over time’. This is certainly not the case for many non-heterosexual young people who experience rejection and abuse when they disclose their sexual orientation to friends and family. Thus, although Vincke and Van Heeringen’s study explored the positive effects of improving non-heterosexual young people’s friendships with other non-heterosexual people, improving young non-heterosexual people’s social relationships with heterosexual peers and family may be more complicated, as poor relationships are probably largely a result of homophobic attitudes. In other words, although better peer relationships may lower levels of depression, they are unlikely to alter broader social structures that produce and sustain the homophobic environments that lead to non-heterosexual people’s poorer mental health in the first place.

Ross et al. (2007a) conducted an uncontrolled intervention trial in Toronto, Canada, to examine the effects of cognitive behavioural therapy on GLBT people suffering from depression. The intervention included 14 weekly two-hour sessions and a ‘booster’ session two months later. Further, there were women’s groups, men’s groups, and mixed groups. In line with their anti-oppression framework, the facilitators of the intervention also included GLBT-related content, which included two sessions devoted to experiences associated with disclosing sexual orientation and with internalised homophobia. Ross et al. collected data on depression, self-esteem and internalised homophobia in 23 GLBT people at baseline, in the last session, and two months after the group intervention. The results of data collected on depression (measured on the BDI-II, and the Hamilton Rating Scale for Depression) suggest that depressive symptoms were significantly decreased in gay and lesbian people from baseline to the last intervention session, and that this decrease in depressive symptoms was sustained over the following two months. Ross et al. also found that self-esteem scores were significantly higher between baseline and



the last intervention session, and remained significantly higher two months later. There was no significant difference in internalised homophobia scores and, further, depressive symptom scores did not improve as much for bisexuals as they did for gay and lesbian participants. The authors suggest that this may have been due to the small number of bisexual participants and their potential feeling of alienation within the intervention groups.⁴⁰

Although the Ross et al. (2007a) study certainly shows that cognitive behavioural therapy may be effective in reducing depression in GLBT people, it is difficult to ascertain just how much as there was no control group receiving no treatment or a different kind of treatment. Further, the authors themselves note an ideological contradiction between the two methods they employed in the intervention. Indeed, according to Ross et al., while an anti-oppressive framework 'seek[s] to empower clients through a critical awareness that links structural issues to personal concerns', cognitive behavioural therapy 'tends to decontextualise personal problems from social ones' (11), rather than work with the socio-structural causes of depression.

4.1 Summary on interventions

The two intervention studies that were included in the international review certainly appear to suggest that psychosocial interventions that draw from cognitive behavioural therapy models, or that aim to increase social support for participants, may be effective in reducing depressive symptoms in GLBT people. Curiously, there were no social intervention studies that targeted social processes such as victimisation, homophobia, and discrimination: the probable root of poor mental health in GLBT people.

⁴⁰ The GLBT sample only included one transgender person and so it was impossible to determine how effective the intervention could be for depressed people in this group.

5. Outcomes of Depression in Non-Heterosexual People

Just as it is difficult to determine a causal link between depression and certain risk factors for depression, it is equally difficult to establish outcomes of depression due to a lack of appropriate research methodologies. In the studies reviewed, it was impossible to determine whether depression was cause or consequence of behaviours often connected to poor mental health, such as unsafe sex, alcohol and drug use, or suicide. For instance, do non-heterosexual people misuse alcohol or engage in risky sexual behaviours because they are depressed, or do they become depressed as a result of their risky behaviours? One could argue that non-heterosexual people simply engage in more risky behaviours (e.g. consumption of drugs and alcohol, and higher number of sexual partners), which then puts them at further risk for psychiatric disorders; however, the evidence in the literature appears to suggest otherwise (c.f. Gilman et al. 2001). Further, as Perdue et al. (2003: 90) suggest: ‘...it seems reasonable to argue that because behavioural decisions are often situationally specific, and depression is often a chronic mental state, depression likely preceded the behaviour reported in many of these cases’. In this section, the literature on evidence of the outcomes of depression in non-heterosexual people is examined. The three key outcomes found in the literature were sexual risk, alcohol and drug use, and suicidal behaviours.

5.1 High-risk sexual behaviour

Initially, a pervasive tendency in the literature was identified that equated depression in non-heterosexual people with sexual risk, wherein depression was not treated as the primary issue of concern but, rather, as a risk factor for particular behaviours or outcomes. Indeed, an enormous amount of literature posited a causal link between depression and gay men’s sexual risk behaviours. These studies hypothesise that gay or other homosexually active men who are depressed are more likely to practise unsafe sex, which may then lead to HIV infection. Further, HIV-positive gay or other homosexually active men who are depressed are purportedly also more likely to practise unsafe sex and then infect others. The studies reviewed did not straightforwardly support these hypotheses.

Perdue et al. (2003) analysed a venue-based probability sample of 429 young gay and other homosexually active men (aged between 23 and 29) living in Seattle, USA, and were interested in exploring the relationship between depression and sexual risk; specifically, whether depression predicted reports of HIV risk behaviour, defined as unprotected insertive or receptive anal sex. Perdue et al. found that symptoms of depression measured on the CES-D were associated with having had ‘...three or more male sex partners within the last 6 months’ (88), but were not associated with unprotected anal sex with a non-monogamous partner in the same time frame. Perdue et al. suggest that:

...depression may tend to predispose one to risky *situations* (higher numbers of sexual partners, for instance), whereas specific risk *behaviors* (e.g. sex without a condom) may be influenced more by immediate factors (i.e. perception of partner’s risk, fear of sexual rejection, or being high on drugs or alcohol during sex). This interpretation is supported by our finding of more depressed MSM reporting higher numbers of sex partners. (90)

Nevertheless, this interpretation does not explain the results of the Mills et al. (2004) study of 2,678 gay and other homosexually active men. Much like the study by Perdue et al. (2003), Mills et al. found that neither distress (i.e. a score between 16 and 22 on the CES-D) nor high risk for depression (i.e. a score of



23 or above on the CES-D) were associated with reports of unsafe sex in the past 12 months. Unlike the Perdue et al. study however, Mills et al. found no relationship between the number of sexual partners in the past 12 months and depressive symptoms.

Frost et al. (2007) were also interested in exploring the relationship between depressive symptoms and sexual risk behaviours and, like the studies described above, also measured depressive symptoms using the CES-D. In contrast to the other two studies, Frost et al. found that depressive symptoms were significantly associated with participants' histories of sexually transmitted infections (STIs) such that the more types of STIs in respondents' histories, the higher the depressive symptom scores. One problem with all three of the studies described above is their use of the CES-D (which measures short term/current prevalence of depressive symptoms) in conjunction with measures of having had STIs or having had unprotected anal intercourse over the course of longer periods of time (i.e. six months, 12 months, or ever in one's lifetime). Further, as already mentioned, the CES-D cannot detect differences between depression and other depressive disorders such as dysthymia and a bipolar depressive episode.

Rogers et al. (2003) measured depressive disorders according to DSM-IV criteria and the results of their study shed some light on a possible explanation for conflicting findings in the literature on depression and sexual risk. Rogers et al. examined a clinical sample of 460 homosexually active men from Adelaide, Australia, in order to determine whether depressive disorders (major depression, dysthymia, or double depression) predicted sexual risk behaviours in both HIV-negative and HIV-positive gay and other homosexually active men. At first, they did not find a relationship between depressive disorder and sexual risk behaviour (defined as having unprotected anal intercourse, either as inserter, receiver, or both). However, when they explored major depression and dysthymia separately, Rogers et al. found that men who met the criteria for dysthymia only (i.e. without a current major depressive episode) were significantly more likely to have had unprotected anal intercourse with a non-monogamous partner than those men who met the criteria for major depression. Further, among men who met the criteria for dysthymia, sexual risk behaviour was significantly associated with being HIV-positive and currently using drugs and excessive alcohol. According to Rogers et al., having a major depressive episode could lead gay and other homosexually active men to have lower libido and not engage in much sexual activity while acutely depressed; however, those with dysthymia may not be so acutely depressed that there are negative effects on their libido.

5.1.1 Summary on high-risk sexual behaviour

Although depression and depressive symptoms in gay and other homosexually active men have been consistently associated with high-risk sexual behaviours in the literature, this review found mixed results. In two out of the four studies described above, unprotected anal sex among gay and other homosexually active men was not associated with depressive symptoms. However, the other two studies appear to suggest a connection between sexual risk and depression. Nevertheless, it is difficult to make comparisons between all four studies as three measure sexual risk via reports of unprotected anal sex and one measures sexual risk through STI history. Further, although three studies measured depressive symptoms, only one measured clinical depressive disorders according to DSM criteria. It appears from this last study that high-risk sexual behaviour may be related more to dysthymia than to major depression. Nevertheless, the results of this study do not support an overall relationship between depressive disorders and high-risk sexual behaviours.

5.2 Alcohol and drug use and dependency

There is a growing literature on alcohol and substance use among non-heterosexual people. Nevertheless, although several of the representative population studies measured alcohol and drug use and dependency in non-heterosexual people, most did not explore how substance use was associated with depression. A few studies explored the relationship between alcohol use and depressive symptoms; however, these studies sampled lesbians, probably in line with a tendency in the literature to associate lesbians with purported high alcohol consumption. Similarly, gay men are often associated with drug and amphetamine use in the literature; however, none of these studies were included in this review in part due to a pervasive tendency to explore depression and amphetamine use among gay men only insofar as the latter is believed to lead to high-risk sexual practice and thus HIV infection.

The literature suggests that although lesbian and other homosexually active women appear to have slightly higher 12-month and lifetime prevalence of alcohol use disorders than heterosexual women according to DSM criteria, these differences are rarely significant. Several representative population and national probability studies found that according to DSM criteria, non-heterosexual women had slightly higher rates of 12-month prevalence of alcohol use and dependency disorders than heterosexual women, but these differences were mainly insignificant (Cochran et al. 2003; Cochran et al. 2007; Gilman et al. 2001; Sandfort et al. 2001). Only one study (Cochran and Mays 2000b) found a significant difference between non-heterosexual and heterosexual women for 12-month prevalence of alcohol dependency. Further, although Sandfort et al. (2001) found that homosexual women were significantly more likely to meet DSM criteria for lifetime prevalence of alcohol dependence, Gilman et al. (2001) found no significant difference between non-heterosexual and heterosexual women for lifetime prevalence of alcohol use disorders.

In several studies, gay and other homosexually active men also appeared to have slightly higher 12-month prevalence of alcohol use and dependency disorders according to DSM criteria, but these differences were all insignificant (Cochran et al. 2003; Gilman et al. 2001; Sandfort et al. 2001). Gay and other homosexually active men appeared not to differ from heterosexual men in lifetime prevalence of alcohol use or dependence disorders (Gilman et al. 2001) and, further, in one study (Sandfort et al. 2001) homosexual men had significantly lower rates of lifetime prevalence of alcohol use than heterosexual men.

The literature shows even more inconsistent patterns of drug and overall substance use and dependency according to DSM criteria for non-heterosexual people. Some studies showed slightly but insignificantly higher prevalence of 12-month drug use and dependency in non-heterosexual women when compared with heterosexual women (Cochran et al. 2003; Gilman et al. 2001; Sandfort et al. 2001), while other studies found that lesbian and other homosexually active women were significantly more likely than heterosexual women to meet the criteria for 12-month prevalence of a drug use or dependency disorder (Cochran and Mays 2000b; Cochran et al. 2007) or any substance use disorder (Sandfort et al. 2001). According to a few studies, homosexual women had significantly higher rates than heterosexual women of past four-year prevalence of drug dependence (Fergusson et al. 2005), lifetime drug use or dependency (Gilman et al. 2001; Sandfort et al. 2001) or lifetime prevalence of any substance disorder (Gilman et al. 2001). One study (Cochran et al. 2007) found no significant differences between lesbian/bisexual women and heterosexual women in lifetime prevalence of any substance use disorder.

The results are also inconsistent for non-heterosexual men. All the studies that tested 12-month prevalence of drug and substance use disorders according to DSM criteria found that gay and other homosexually active men had similar, or slightly but insignificantly higher, rates of drug use or dependency

than heterosexual men (Cochran and Mays 2000b; Sandfort et al. 2001; Cochran et al. 2003; Cochran et al. 2007; Gilman et al. 2001). Cochran et al. (2007) did find, however, that, gay/bisexual men were more likely than heterosexual men to meet the criteria for 12-month prevalence of any substance use disorder. In relation to longer prevalence of drug and substance use disorders, Fergusson et al. (2005) found that homosexual men were more than four times as likely as heterosexual men to meet the criteria for past four-year prevalence of drug dependence. For lifetime prevalence of drug use and dependency, Sandfort et al. (2001) found no significant difference between homosexual and heterosexual men, and Gilman et al. (2001) found that gay and other homosexually active men were significantly more at risk of lifetime prevalence of drug use and dependency than heterosexual men.

There appears to be a more consistent tendency for bisexual people to suffer from higher rates of alcohol and drug-related disorders and problems than heterosexual people and, in several cases, homosexual people. Fergusson et al. (2005) found that mainly heterosexual men and women had higher rates of drug dependence than exclusively heterosexual people, but lower rates than exclusively homosexual men and women. The other four studies that analysed bisexuals separately from homosexual men and women (Case et al. 2004; Jorm et al. 2002; Meyer et al. 2008; Valanis et al. 2000) all found that bisexuals had higher prevalence of alcohol and drug use than both heterosexual and homosexual people. For instance, Meyer et al. found that 51.4 per cent of bisexuals compared with 35.5 per cent of lesbians and gay men met DSM-IV criteria for lifetime prevalence of any substance use disorder. Jorm et al. found no difference between heterosexual, homosexual and bisexual men and women aged between 20 and 24 in rates of alcohol use. There were, however, significant differences in the 40 to 44 year age group; homosexuals had higher rates of alcohol use than heterosexuals, and bisexuals had higher rates than homosexuals.

There certainly appears to be a tendency for non-heterosexual individuals to suffer higher rates of alcohol and drug use and dependency disorders than heterosexual people; however, the differences in prevalence rates are often insignificant. Due to problems with research methodologies that, as already mentioned, cannot establish causality between variables, it is difficult to know whether alcohol and drug use are risk factors for depression or the outcomes of depression. Nevertheless, the literature seems to support the viewpoint that non-heterosexual people consume alcohol and drugs as a coping strategy to offset the effects of depression and mental health problems (Kaminski 2000; Kerr and Emerson 2003; Mays et al. 2003).

Most of the literature that explored the relationship between depression and alcohol and drug use sampled lesbian and bisexual women; only one study explored this relationship in gay and other homosexually active men. Wang et al. (2007) found that in their sample of gay and other homosexually active men living in Geneva, 11.4 per cent met DSM-IV criteria for 12-month prevalence of alcohol dependence and 7.3 per cent for drug dependence; however, only 2.6 per cent of the sample was co-morbid for major depression and substance use, suggesting that alcohol or drug dependence might not have been a primary outcome of depression in this sample. In the Bostwick et al. (2005) study, the co-occurrence of past-year major depression and alcohol dependence in a sample of 403 lesbians was much higher than for gay and other homosexually active men in the Wang et al. study: 13 per cent of lesbians showed signs of co-occurring depression and alcohol dependence.⁴¹ Bostwick et al. (2005) found that, after adjusting for potentially confounding demographic variables, both past-year depression and lifetime depression significantly predicted past-year alcohol dependence among lesbians. Mays et al. (2003) found similar results in a sample of 603 lesbian and bisexual African American women. They found

41 Bostwick et al. (2005) refer to 'co-occurrence' rather than co-morbidity of depression and alcohol dependency as they measured the former but not the latter according to DSM-III criteria.

that '18 per cent of women reported using drugs or alcohol frequently to make themselves feel better' (35) and, further, this coping strategy was associated with more depressive symptoms according to the CES-D.

Kaminski's (2000) qualitative study of 19 lesbian/bisexual women further supports the suggestion that non-heterosexual women turn to alcohol and drug use in order to cope with depression and stressful situations associated with their stigmatised sexual orientation. One major theme to arise from Kaminski's study was that a number of women claimed that their drug and substance use occurred as a result of coming to terms with their sexual orientation in hostile and homophobic environments. One participant described her family's rejection of her sexual orientation when she was in her late teens and her family's desire for her to seek mental health counselling in order to become 'straight':

I was suffering from depression really badly then...Plus, well, it was such a weird time because I did a lot of cocaine. I did a lot of drugs, to sort of get away from everything. (94)

According to Kaminski, depression and substance use were largely absent from the stories of lesbian/bisexual women who did not feel depression or distress over coming to terms with their sexual orientation, and who were raised in non-homophobic settings.

5.2.1 Summary on alcohol and drug use and dependency

Although non-heterosexual people (both men and women) tend to have higher rates of alcohol and drug use and dependency than heterosexual people, these differences are not always significant; however, there appears to be a more robust tendency for bisexuals to suffer from substance use and dependency disorders. Further, there is evidence to suggest that alcohol and drug use is associated with high rates of depressive symptoms, particularly in non-heterosexual women, and that substance use may be a coping strategy to deal with the stress related to living in homophobic environments.

5.3 Suicide

Depression has been recognised as an important predictor of suicidal behaviour (e.g. suicidal thoughts, plans and attempts) in heterosexual populations. The same pattern also appears to be true for non-heterosexual people, particularly for same-sex-attracted young people. Further, higher prevalence rates of depression and depressive symptoms in non-heterosexual people are likely to predict higher rates of suicidal behaviour in this population.

D'Augelli (2002) found high rates of past and current suicidal behaviour in an international sample of 542 GLB young people aged between 14 and 21. Overall, lesbian and bisexual young women had significantly higher rates of suicidal thoughts than young gay and bisexual men. Fifteen per cent of young women said they often had suicidal thoughts and 27 per cent said they sometimes had these thoughts. In contrast, 8 per cent of young men often had suicidal thoughts and 27 per cent sometimes had these thoughts. Young women also reported slightly higher rates of suicide attempt (39 per cent) than young men (36 per cent). D'Augelli (2002) did not have a comparison group so it is difficult to know how much higher these rates are when compared with heterosexual young people.

Three studies that analysed data from different waves of the National Longitudinal Study of Adolescent Health (ADDHealth) in the USA, reported higher rates of suicidal behaviour in same-sex-attracted young people when compared with other-sex-attracted young people. Russell and Joyner (2001) found that

in a sample of 11,940 young people (7 per cent of whom were same-sex-attracted) drawn from wave one of ADDHealth, same-sex-attracted young people were significantly more likely to report suicidal behaviour than other-sex-attracted young people, and twice as likely to attempt suicide. Further, young women were at higher risk for both suicidal thoughts and attempts than young men. Consolacion et al. (2004) found the same results when analysing waves one and two of ADDHealth; however, they found that although same-sex-attracted young women were generally at higher risk for suicidal thoughts than same-sex-attracted young men, this was not the case for all ethnic groups. Silenzio et al. (2007) explored data from wave three of ADDHealth (collected seven years after wave one), in which the sample was aged between 18 and 26 years. In contrast to earlier waves of ADDHealth, participants were asked about self-identified sexual orientation rather than sexual attraction. Silenzio et al. (2007) found that much like in the previous waves of ADDHealth, GLB young people had higher rates of suicidal thoughts and attempts than heterosexual people after data were controlled for potentially confounding demographic variables.

Several international studies, mostly with representative population samples, have compared rates of suicidal behaviour between gay and other homosexually active men and heterosexual men; however, the results are conflicting. Although two studies showed that gay and other homosexually active men had higher 12-month prevalence rates of suicidal plans or attempts than heterosexual men (Cochran et al. 2007; Gilman et al. 2001), only the Cochran et al. finding of higher prevalence of last-year suicide attempt in Asian American-Pacific Islander gay/bisexual men was significant. Whereas several studies showed a tendency for gay and other homosexually active men to have higher four-year prevalence (Fergusson et al. 2005) or lifetime prevalence of suicidal thoughts or attempts (Cochran and Mays 2000a; Cochran et al. 2007; Gilman et al. 2001), three out of these four studies showed significant differences between gay and other homosexually active men, and heterosexual men in lifetime prevalence of suicidal thoughts (Cochran and Mays 2000a; Gilman et al. 2001) or suicide attempt (Gilman et al. 2001).

Although two studies showed that lesbian and other homosexually active women had higher 12-month prevalence rates of suicidal thoughts or plans (Gilman et al. 2001) or attempts (Cochran et al. 2007) than heterosexual women, neither of these studies showed significant differences between the two sexual orientation groups. The results for lesbian and other homosexually active women are slightly different for lifetime prevalence. Although Cochran et al. did not find any significant differences between lesbian and other homosexually active women and heterosexual women for lifetime prevalence of suicide attempt, Gilman et al. (2001) found that lesbian and other homosexually active women were at significantly higher risk of lifetime prevalence of suicidal thoughts than heterosexual women. Further, according to Fergusson et al. (2005) although exclusively homosexual women had much higher rates of suicidal ideation than exclusively heterosexual women in the past four years, rates of suicide attempt did not differ substantially between these two sexual orientation groups.

There appears to be evidence for higher rates of suicidal behaviour in gay and other homosexually active men when compared with heterosexual men, both for 12-month and lifetime prevalence; however, in some cases these differences are not significant. Further, it appears that for lesbian and other homosexually active women, higher rates of suicidal ideation are more common than higher rates of suicide attempt when compared with heterosexual women. There is also evidence to suggest that bisexual people have elevated rates of suicidal behaviour when compared with heterosexuals (Fergusson et al. 2005; Jorm et al. 2002; McNair et al. 2005), and even slightly higher rates than homosexuals (Jorm et al. 2002; McNair et al. 2005; Meyer et al. 2008). For instance, McNair et al. (2005) found that in a cohort of 22 to 27 year-old Australian women, rates of feeling that life in the last week had not been worth living elevated according to ascending non-heterosexual identity. Further, mainly heterosexual (11.1 per cent), bisexual (18.7 per cent) and exclusively/mainly homosexual (17.3 per cent) women

were significantly more likely to report either harming or attempting to kill themselves in the last six months compared with exclusively heterosexual women (2.7 per cent). This result remained significant after controlling for demographic variability, social support, experiences of abuse, and stress. McNair et al. found that in a mid-aged cohort (50 to 55 years), bisexual women had the highest rates of having had attempted suicide in the last six months (16.1 per cent compared with 0.8 per cent of exclusively heterosexual women, 4 per cent of mainly heterosexual women, and 2 per cent of exclusively/mainly homosexual women).

Much like the other Australian studies included in the international review, analysis of ARCSHS studies also suggests that non-heterosexual people have higher rates of suicidal behaviour than heterosexual people. For instance, a significant minority (15.7 per cent) of respondents in the *Private Lives* study reported suicidal ideation ('feeling you would be better off dead') in the two weeks prior to participating in the survey. This proportion is higher than the rate of suicidal ideation found in a representative Australian general population sample by Fairweather et al. (2007), wherein 8.2 per cent of people had thought of taking their own lives in the past year.⁴² In *Writing Themselves In Again*, as previously noted, over a third of the sample (36.1 per cent) said that they had either considered or succeeded in harming themselves as a result of their experience of homophobia. Although homosexual respondents (37.3 per cent) were more likely to either self-harm or consider self-harm compared with bisexual young people (31.9 per cent), the difference was not statistically significant ($\chi^2(1) = 3.22, p = .073$).

Although a variety of studies, particularly representative population studies, provided prevalence rates of suicidal behaviour, fewer studies explored the link between depression and suicidal symptoms in non-heterosexual people. Nevertheless, depression and depressive symptoms appear to be strong predictors of suicidal behaviour.

D'Augelli (2002) found that young non-heterosexual people aged 14 to 21 who had attempted suicide had significantly more depressive symptoms (measured on the BSI) than those who had never attempted suicide.⁴³ Russell and Joyner (2001) found in their analysis of wave one of ADDHealth that depressive symptom scores measured on an abbreviated version of the CES-D were significantly higher for young people reporting suicidal thoughts or attempts and that same-sex-attracted young people exhibited higher rates of depressive symptoms and suicidal behaviour than their heterosexual counterparts. This was also the case for young people in wave three of ADDHealth; further, depressive symptoms independently predicted suicide attempt in GLB young people (Silenzio et al. 2007).

Other studies have shown that high levels of depressive symptoms are also positively associated with suicidal behaviour in non-heterosexual adults: for instance, with suicidal thoughts in lesbian and bisexual African American women (Mays et al. 2003); and suicide attempt in gay and other homosexually active men (Botnick et al. 2002; Mills et al. 2004). For instance, Botnick et al. analysed data from the Vanguard Project, a study on HIV and sexual risk behaviours in young self-identified gay and other homosexually active men aged between 18 and 30 living in the Greater Vancouver region in Canada. Participants were recruited through both community and clinical settings and were asked to fill out questionnaires at baseline and every year after that. Botnick et al. derived their analysis from a sample of 345 men who had filled out baseline surveys and at least one annual survey after that. They found that depressive symptom scores measured on an abbreviated version of the CES-D were significantly higher for gay and other

42 It should be noted that the question Fairweather et al. (2007) used to measure suicidal ideation was more specific in that it asked respondents if they had actively 'thought about taking their own life'.

43 According to D'Augelli (2002), suicide attempt was significantly associated with all nine subscales of the BSI.

homosexually active men who had attempted suicide. Further, men who had attempted suicide were significantly more likely than those who had not to have been diagnosed with a mood disorder such as major depression.

5.3.1 Summary on suicide

The literature on suicide in non-heterosexual people shows a fairly robust tendency toward their higher rates of suicidal ideation and attempt when compared with heterosexual people; however, these differences are not always significant. Further, the finding that non-heterosexual young women are at higher risk for suicidal behaviour than non-heterosexual young men was consistent across all studies that sampled young people. In line with bisexual people's consistently poor mental health outcomes, bisexuals appeared to be at the same or higher risk for suicidal behaviour than homosexuals. The findings on suicidal behaviour in bisexuals in the ARCSHS studies were less clear; however, the findings were certainly consistent with higher rates of suicidal ideation and self-harm in non-heterosexual people when compared with heterosexual people. Although limited findings on the relationship between depression and suicidal behaviour were found, a few studies did consistently find that depressive symptoms and depression were strong predictors of suicidal behaviour, particularly suicide attempt, in non-heterosexual people.

6. Conclusions

The results of this literature review point strongly towards higher rates of depression, more depressive symptoms, and poorer mental health outcomes for non-heterosexual people when compared with heterosexual people. Young non-heterosexual people clearly show significantly higher prevalence of depressive symptoms than their heterosexual counterparts. The literature also points to alarming rates of abuse and victimisation of young non-heterosexual people and, further, significantly higher rates of suicidal behaviour when compared with heterosexual young people. Although the results are less consistent for gay, lesbian and other homosexually active adult men and women, the data are still compelling. Non-heterosexual men and women show consistently higher trends toward depression than heterosexual people; however, these results are not always statistically significant. Nevertheless, the literature points toward an inverted trend for men and women whereby lesbian and other homosexually active women appear to be at more risk for lifetime prevalence of major depression than heterosexual women, while gay and other homosexually active men appear to be at greater risk for 12-month prevalence of major depression when compared with heterosexual men. The reasons for these trends may be multifaceted; however, the trends are consistent with findings that suggest that while non-heterosexual men appear to be more prone to depression at a younger age, non-heterosexual women appear to be vulnerable to depression when they are in *both* younger and older age groups. In relation to the outcomes of depression, it appears that higher rates of depression in lesbian, gay and other homosexually active women and men may lead to an increase in alcohol and drug use and suicidal behaviour. The risk for depression and consequent alcohol and drug use and/or suicidal behaviour appears to be particularly high for bisexuals, when compared with both heterosexuals and homosexuals.

The findings from each of the ARCSHS studies also show a clear pattern of differences in mental health by sexual identity. Non-heterosexual people and, in particular, those with bisexual sexual identity, consistently demonstrate poorer mental health on a variety of psychometric measures across several different cross-sectional studies. Analysis of *ASHR*, *ALSHR*, *Private Lives* and *WTIA* data shows that bisexual people consistently score higher on psychometric instruments and single-item variables designed to measure depression and emotional well-being. Furthermore, estimates of same-sex-attracted people's self-rated general health in the ARCSHS studies were consistently poorer than those reported for the Australian population (Australian Bureau of Statistics, 2005).

A variety of gaps in the literature were identified. For instance, the literature appeared to suggest differing rates of depression according to age group or life stage; however, there were few findings on how depression and mental health indicators vary over the life span. The literature also suggested that depression in non-heterosexual people may vary according to ethnicity, in line with a model that predicts that multiple minority statuses will lead to more discrimination. Indeed, there was a particular pre-occupation with race and ethnicity in studies based in the USA. Ethnicity, however, was not a variable tested in studies of depression in non-heterosexual people in other ethnically diverse countries. Thus, it is difficult to determine whether indigenous and other culturally and linguistically diverse non-heterosexual people might require particular attention in the Australian context.

One of the strongest patterns in the literature, which was simultaneously one of the largest gaps, was the identification of bisexual people as being at particular risk for depression or depressive symptoms. Indeed, both-sex-attracted young people and bisexual adults often rated poorly on depression and mental health outcomes compared with same-sex-attracted and gay and lesbian people. Further, bisexual people often had worse outcomes than other non-heterosexual people, such as higher rates of alcohol and substance use and more suicidal symptoms. Despite bisexuals displaying different

prevalence rates of depression, suicidal behaviour and substance use from gay and lesbian people, many studies included in this review collapsed bisexuals into GLB categories, thus obscuring them and potentially inflating depression rates in other non-heterosexual people. Very little is known theoretically and empirically about bisexuality, and it is important that more empirical research is done on this invisible sub-population. Further, it is crucial that more adequate sexual orientation measures are employed in empirical research in order to capture the variability within non-heterosexual populations.

As previously noted, there are a range of methodological problems associated with exploring depression in non-heterosexual people. Three additional methodological limitations in the literature were identified in this review. First, almost all the studies reviewed were quantitative despite adjusting the review criteria in order to allow for the inclusion of qualitative studies.⁴⁴ Consequently, the findings are often missing the more nuanced descriptions and analyses that qualitative research can provide, especially in relation to non-heterosexual people's experiences associated with depression, their responses to it, and their various coping strategies. Second, there was a paucity of research methodologies that allowed for the examination of causal relationships between depression and its various risk factors and outcomes. Indeed, the majority of studies reviewed were cross-sectional and could make predictions between variables but could not establish causality. The third methodological limitation was the lack of intervention studies concerned with improving rates of depression in non-heterosexual people. When choosing studies for review, we certainly came across a number of psychological interventions, particularly ones that used cognitive behavioural therapy to alleviate depressive symptoms in HIV positive people. However, there were no larger-scale social interventions that targeted homophobia and encouraged more supportive families, and safer schools and communities.

It is interesting to note that a focus on psychological intervention and a lack of literature on social intervention appears to be consistent with an overall tendency in the literature to highlight psycho-social risk factors for depression in non-heterosexual people rather than social risk factors such as homophobia, discrimination and victimisation based on stigmatised sexual orientation. Further, within the literature on discrimination, we found more studies concerned with the (psychological) internalisation of stigma and homophobia rather than the (social) phenomenon of discrimination itself. This focus on directing attention to the psyches of non-heterosexual people can be misleading for a number of reasons; primarily, because it can reproduce pathologising discourses on non-heterosexual people themselves and simultaneously disguise social and cultural processes that produce and sustain the hostile environments that become the breeding ground for distress and depression.

In this context, it is likely that social interventions, such as the availability of support groups for same-sex-attracted young people, well-established recreational and sporting clubs for non-heterosexual people, or culturally sensitive telephone support lines for example, can play a role in preventing depression. Access to primary care health providers who are trained to deliver sensitive and well-informed services to non-heterosexual people is likely to facilitate early intervention and pro-active prevention within the community as a whole. Such a workforce needs to sit alongside of appropriate specialist care that non-heterosexual people can access with confidence. The success of GLB community response to the HIV epidemic in the late 20th century may also indicate a value in resourcing community-identified services and social groups to carry out primary prevention may be worthwhile.

44 As noted in the methodology section, the review criteria that restricted sample sizes of less than 50 subjects, and those restricted studies that did not utilise standardised measures of depression were relaxed in the case of qualitative studies.

A large majority of non-heterosexual people do not suffer from depression or any other mental disorder; however, most of the studies reviewed indicated a higher risk for depression, and various outcomes associated with it, in non-heterosexual people. It is important to avoid a pathologising tendency that equates non-heterosexuality with inevitable psychological maladjustment and increased propensity for high-risk behaviours such as unsafe sex, alcohol and drug use, and attempted suicide. Indeed, there were very few references in the literature to the various positive coping strategies used by non-heterosexual people and, further, the resilience that they exhibit in light of elevated levels of victimisation, violence and discrimination.

It would be a worthwhile undertaking to explore some of this resilience further, focusing on why, given their life experiences, many GLB people do not experience depression. Such a study would provide useful insights for addressing the unacceptably high levels of morbidity that currently appear to exist. Finally, the theme that runs throughout this review is the overall effect of homophobia and heterosexism on the mental health of non-heterosexual people. In many ways, this points to a burden of poor mental health that may well be entirely preventable. In addressing depression for non-heterosexual people, it is important to institute measures to combat homophobia and discrimination in the general community. Such a move might well level out the differences found between heterosexual and non-heterosexual people and enable more positive community support for all those who remain vulnerable.



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Note: those references below marked with an asterisk* indicate the 59 studies that were included in the international review.

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