MONOGRAPH 3/2009

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ISBN 978-1-921493-07-2
Monograph 3/2009

Edited by Jeane Balcombe
Layout by Judi Rainbow

The National Centre in HIV Social Research is funded by the Commonwealth Department of Health and Ageing and is part of the Faculty of Arts and Social Sciences at the University of New South Wales.

Suggested citation:
Rawstorne, P., Holt, M., Kippax, S., Worth, H., Wilkinson, J., & Bittman, M. (2009). ***e-male survey 2008: key findings from a national online survey of men who have sex with men in Australia*** (Monograph 3/2009). Sydney: National Centre in HIV Social Research, The University of New South Wales.

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Acknowledgments

The study team would like to thank all the men who took the time to complete the online questionnaire. Without you, as they say, none of this would have been possible.

The e-male project was funded by the Australian Research Council's Linkage program. This was made feasible by the financial, in-kind and intellectual commitment of the project's original partners: ACON, NSW Health, the Queensland Association for Healthy Communities, Queensland Health, the Victorian AIDS Council and the Victorian Department for Human Services. We are also grateful for the additional financial support from WA Health.

The project's development was guided and supported by a reference group with members from all of our partner organisations plus representatives from the Australian Federation of AIDS Organisations; the Tasmanian Council of AIDS, Hepatitis and Related Diseases; and the Western Australian AIDS Council.

Thanks must also go to Professor Harm Hospers who, with his colleagues at Maastricht University, provided invaluable advice on the design and implementation of online research studies, and who introduced us to Netdesign (who designed our impressive survey website). Thanks also to Garrett Prestage and Iryna Zablotska, who kindly arranged access to Gay Community Periodic Survey data while we were writing this report.

When we launched the online survey, every state and territory AIDS Council assisted us in promoting the study, as did many of the member organisations of the National Association of People Living with HIV/AIDS. Many commercial websites, including manhunt.net, dudesnude.com and squirt.org, carried free advertising

1 Background and aims of the study

1.1 Background

Social research into HIV health promotion has demonstrated that engagement in gay community, and the social capital associated with such engagement, is related to a reduced risk of HIV transmission. This study explored the potential benefits and risks to gay and other homosexually active men who use the internet to access health information, meet sexual partners and build friendships that affirm gay identity and community. It proposed that the internet provides a form of 'virtual' community that can potentially increase social capital among gay men and thus support normative patterns of harm-reducing behaviour and reduce the risk of HIV transmission.

Recent reviews and meta-analyses of social research investigating health promotion and HIV-prevention education have pointed to the comparative successes of group and community interventions over individually focused interventions (Des Jarlais & Semaan, 2002; Elford & Hart, 2003; Ellis et al., 2003; Johnson et al., 2002). These reviews have highlighted the central place of social processes in HIV prevention and suggest that the mobilisation of safe sex practice is not a simple process of information access. Rather, safe sex is socially produced and negotiated in particular contexts – spatial, interpersonal and social (Kippax & Race, 2003; Rosenbrock et al., 2000). Studies have indicated that for many gay men, 'safe sex' is a community practice (Kippax et al., 1993). They have also shown that men who are either socially or geographically isolated from gay community are more likely to engage in risk practice. For example, studies conducted as early as 1986 indicated that men attached to the gay community in Sydney were better informed about HIV prevention and more likely to adopt safe sexual practices than those who were not attached to gay community (in the social, sexual and political realms) (Van de Ven et al., 2002). More recent studies have similarly shown that men who are geographically isolated from gay community and/or live away from the epicentres of HIV are less likely to have a detailed understanding of safe and unsafe sexual practices and are more likely to engage in risk practices that increase the risk of HIV transmission (e.g. Tikkanen & Ross, 2003).

The development of the internet as a site for social engagement has changed how we think of community interaction. The finding that frequent users of gay chat sites are less likely to be members of gay community organisations (Bowen et al., 2004) underlines the shift from face-to-face to virtual engagement among gay men. The internet's reach and accessibility may also provide a unique opportunity to reach more geographically isolated men (Hillier et al., 2001), same-sex-attracted young people (Ross et al., 2000) and men who have sex with men (MSM) who also have female partners (Keeble & Loader, 2001) . As well as providing benefits, the internet may place its users in the way of potential harm. For example, two recent publications addressing the internet's information-providing function and its role in enabling on-line support groups or networks for people with health problems, also found that it was used for other purposes, including finding sexual partners, socialising and making friends (Hull et al., 2003; Rice & Katz, 2001). Studies of gay-community-attached men in Australia have shown that around half use the internet to find sex partners (Murphy et al., 2004). A recent study of 450 gay men in Sydney and Melbourne who use internet chat sites found that over 60% had met casual partners via online contact and nearly 60% had also found friends. So as well as providing HIV prevention and health promotion material (Benotsch et al, 2002; Elford et al., 2001; Reitmeijer et al., 2001), internet use may also be involved, albeit indirectly, in increasing sexually transmissible infections (Halkitis et al, 2003; Hospers et al., 2002; McFarlane et al., 2000; Watney, 1990).

The growing literature on social capital in Australia (Brown & Onyx, 1999; Cox, 1995; Onyx & Bullen, 2000; Wilkinson & Bittman, 2002; Wilkinson & Bittman, 2003) attests to the importance of public forms of sociability in renovating

2.1 Rationale

The aims of the project necessitated a different approach to recruiting men than currently occurs with the Gay Community Periodic Surveys conducted in the major cities in Australia. Those studies recruit men at gay venues and events, resulting in samples of men who generally socialise with and are connected with other gay men.

The survey team contracted the task of developing the survey site to a software development organisation (Netdesign) in the Netherlands with prior experience conducting online surveys of MSM. The front page of the e-male site is shown on the next page (Figure 1).

Key features of the site were:

- clear and easy navigation
- the capacity to click back to earlier pages and change prior responses
- the option to save responses and return to a partially completed survey at a later date
- a bar to indicate the participant's progress through the survey
- a feedback option for participants' comments
- a 'send to a friend' option to notify others about the survey by email.

2.4 Research design

The study utilised a cross-sectional design in which research participants provided data at one time point only. A cross-sectional design was chosen because it was relatively quick, enabled participant anonymity and was sufficient for answering the research questions.

All participants who commenced the online survey were initially presented with questions that assessed their

Figure 1: E-male survey website welcome page

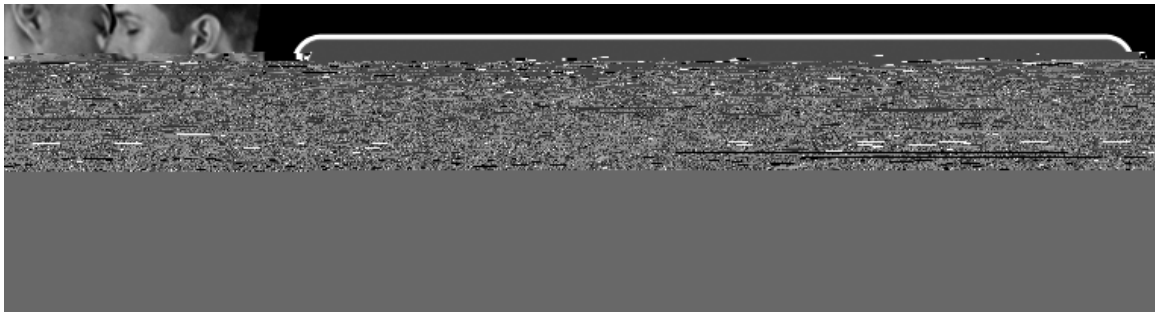

Figure 2: Banner advertisement for the survey used on an AIDS Council website

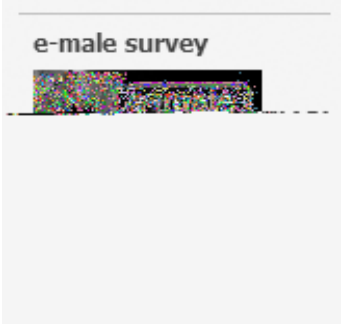

Figure 3: Online advertisement used on Facebook.com

Emails advertising the project website were circulated to the distribution lists of gay community organisations, HIV organisations, and groups of interest to MSM. Visitors to the e-male homepage could also use the 'Send to a friend' feature built into the website to notify other men about the survey by email.

Colour print advertisements were placed in gay community newspapers such as the Sydney Star Observer and AXN. An example of a colour print advertisement is shown in Figure 4. Short notices including the survey web address were placed in the personal, adult or classified sections of regional newspapers across Australia, including The Tamworth Times, the Mildura Weekly, the Gladstone Observer, the Port Lincoln Times, the Mandurah Mail, the Northern Territory News, The Canberra Times, and The Mercury in Tasmania. In all, print advertising was placed in 83 rural newspapers across Australia.

Small flyers, similar in size and shape to business cards, were printed featuring the project logo and website address. Business cards were distributed by AIDS Councils at venues, community events or other locations attended by MSM in every Australian state and territory.

When the survey was launched in February 2008, a media release describing the study was circulated to gay community media and related organisations. This prompted enquiries from journalists and resulted in a handful of articles discussing the project in community print media and on MSM-directed websites.

2.5.2 Sources of recruitment

All participants were asked to indicate where they had heard about the survey, giving an indication of the relative success of different recruitment methods. Recruitment sources are shown in Table 1. Participants could select more than one recruitment source. Online and electronic media appeared to be the most successful ways used to advertise the survey, with website advertising and emails listed as the most common recruitment sources. Offline advertising, such as print advertising, and word-of-mouth referrals appeared to be less effective in attracting participants to the survey. This probably reflects a within-medium recruitment advantage: it was easy for people to get to the survey website by clicking on a banner advertisement or link to the survey site within an email. For those who heard about the survey through an offline source, more effort would have been required to note down or remember the survey web address and visit the site when they were using the internet.

Table 1: Recruitment sources

	n
A friend told me about it	263
I read about it	206
I received an email about it	838
I saw an advert in a gay newspaper or magazine	173
I saw an advert in a local newspaper	147
I saw an online advert on Gaydar	1307
I saw an online advert on Manhunt	947
I saw an online advert on another website	888
Through a search engine e.g. Google	46
Other source	153

2.7 Structure of the report

In this report, the survey results have been split into three sections:

1. description of the sample
2. main results
3. comparison of selected e-male survey samples from New South Wales, Queensland, Victoria and Western Australia with corresponding samples from the Gay Community Periodic Surveys.

Figure 4: Print advertisement used on the cover of Sydney Star Observer

3 Description of participants

Section 3 describes the sample. It does this from several perspectives, initially by looking at demographic variables, then by examining how some key data vary by sexual identity or sexual practice, and finally through participants' use of the internet.

3.1 Participant eligibility, dropouts and survey completions

Some 5056 people navigated to the front page of the e-male survey website, www.e-male.com.au. A few did not start the survey, some were ruled ineligible by their answers, and others started but did not complete the survey. Details of ineligible participants, dropouts and survey completions are shown in Table 2. The first six questions of the survey assessed participants' eligibility. To be considered eligible, participants had to be aged 16 or over, male, currently living in Australia, and report at least one of the following: identification as gay, bisexual or queer, any same-sex-attraction, or sex with a man in the last five years.

Looking at Table 2, we see that nearly all of the 5056 people who accessed the survey home page started the survey. Some 134 people dropped out after the first question and just over 3% were ruled ineligible after the first six questions (ineligible participants were routed to the end of the survey and thanked for their time). One in 10 participants who completed the demographics section of the survey (the first 16 questions) was routed to the qualitative section of the survey. All other participants were directed to the remainder of the quantitative survey. The total dropout rate is 23.3% if we take 5056 as the denominator and 1176 as the total number of dropouts (the total who dropped out at the first question or in the first or second half of the quantitative survey). If we only consider eligible participants, the dropout rate is 22.0% (out of 4731 eligible participants, 1042 dropped out).

Table 2: Ineligible participants, dropouts and survey completions

	n	%
Viewed home page but did not start questionnaire	19	0.4
Dropped out after first question	134	2.7
Ruled ineligible after first six questions	172	3.4
Routed to qualitative component after demographics section	491	9.7
Dropped out during 1st half of quantitative survey	761	15.1
Dropped out during 2nd half of quantitative survey	281	5.6
Completed all relevant questions in questionnaire	3198	63.3
Total	**5056**	**100**

Table 4: Country of birth

	n	%
Australia	2833	81.9
United Kingdom	170	4.9
New Zealand	102	3.0
Malaysia	37	1.1
South Africa	30	0.9
USA	23	0.7
Philippines	16	0.5
Other countries	246	7.0
Total	**3457**	**100**

3.2.3 Australian state or territory

Participants were recruited from every state and territory in Australia (see Table 5). We have included the relative population size of each of these (based on 2006 statistics) in Table 5. The proportion of the sample recruited from each state and territory is in line with the overall population size of each of these, although the e-male survey appears to have slightly over sampled men from the Australian Capital Territory, New South Wales, the Northern Territory and Tasmania. The survey appears to have slightly under sampled men from Queensland, Victoria and Western Australia.

Table 5: Australian state or territory where participants reside

	n	%	State/Territory population as percentage of Australian population*
Australian Capital Territory	164	4.7	1.6
New South Wales	1215	35.1	32.9
Northern Territory	64	1.9	1.0
Queensland	608	17.6	19.8
South Australia	260	7.5	7.6
Tasmania	122	3.5	2.4
Victoria	773	22.4	24.8
Western Australia	251	7.3	9.9
Total	**3457**	**100**	**100**

* Source: Australian Bureau of Statistics (2008)

3.2.4 Metropolitan or regional area

Participants were asked to describe the type of area in which they lived (see Table 6). The majority of men lived in metropolitan areas of their state or territory, with progressively fewer men living in major regional areas, smaller cities or towns and rural or remote areas.

Table 6: Regional area where participants reside

3.2.8 Income

Reflecting the notable minorities of participants working part-time, studying and receiving government pensions or benefits, just over one in six participants reported an annual income of less than $20000 (see Table 9). Over 40% of men reported an income of between $40000 and $79000. Over one in five men reported an annual income of more than $80000.

Table 9: Gross annual income in Australian dollars

	n	%
Less than $20 000	587	17.0
$20 000–39 000	639	18.5
$40 000–59 000	909	26.3
$60 000–79 000	568	16.4
$80 000–99 000	322	9.3
$100 000–119 000	171	4.9
$120 000–139 000	76	2.2
$140 000–159 000	51	1.5
$160 000 or more	134	3.9
Total	**3457**	**100**

Compared with bisexual/heterosexual men, there was a larger proportion of gay men living in a capital city—almost two-thirds of gay men compared with just under a half of bisexual/heterosexual men. There were proportionally more bisexual/heterosexual men living in smaller cities/towns and in rural and remote areas (Table 17).

Table 17: Regional location, by sexual identity/practice

	Gay/ Homosexual/ Queer	Bisexual/ Heterosexual/ Straight	Total
	n		

Each item within the scale is scored on a five-point scale from Strongly Disagree to Strongly Agree. Higher mean scores on the scale indicate greater agreement with the items, and therefore greater degrees of trust, reliance and effort within those relationships. As trust, mutual support and being able to rely on others are regarded as essential features of social capital (Field, 2003; Putnam, 2000; Szreter & Woolcock, 2004), we regard the Strength of Social Connectedness scale as a key indicator of social capital for the men in the e-male survey.

As well as assessing participants' relationships with friends and family members (what might be regarded as 'informal' or 'intimate' ties within social capital theory; see Field, 2003) we measured levels of general trust in others, commitment to reciprocity or helping others and frequency of participation or volunteering in a range of community groups. These measures are indicators of 'formal' ties, community participation and civic engagement, which are also regarded as key components of social capital. Because we wanted to generate measures which were specific to men who have sex with men who use the internet, we also created a reliable scale called 'Sense of sexual and online security' that assessed men's confidence and sense of security in using the internet, posting personal information online and meeting men for sex. The items for each of these scales are shown in Tables 19 to 23.

Participants had the strongest social connections with family members and female friends, followed by offline gay and bisexual male friends and straight/heterosexual male friends. Social connections were the least strong with online gay and bisexual male friends (Table 19). These results should not be taken as an indication that online friendships with gay and bisexual male friends are not enduring and important. Indeed, many of the men's offline gay and bisexual male friends had originally been online friends. What these results do suggest, though, is that a similar depth of friendship as that achieved offline may not eventuate if friendships remain strictly online.

A relatively low mean score on the scale 'trust in others' suggests that there is a level of wariness about being too trusting of men in local neighbourhoods as well as gay or bisexual men met online (Table 20).

Table 19: Scales measuring social connectedness with friends and family

Social connectedness scales	Items in the scale	Mean	Standard deviation	Cronbach's

The mean score for reciprocity was just below the mid-point of the scale (Table 21). Men in the sample were as a group relatively neutral about feeling a responsibility towards the gay community or their residential community.

A relatively low mean score on the scale measuring 'sense of sexual and online security' suggests that men in the sample generally had some concerns about their safety in the context of meeting men online and meeting men for sex (Table 22).

Scores on community participation were also relatively low along the continuum of the scale, though it is not clear whether such a score would be any lower than for the general population (Table 23).

Table 21: Scale measuring reciprocity

Scale	Items in the scale	Mean	Standard deviation	Cronbach's alpha coefficient[1]
Reciprocity	3	2.48	0.73	0.63

Items in the scale[2]:

By helping others you are more likely to receive help when you need it.

I feel a responsibility to make a contribution to the community I live in.

3.5.1 Social capital and sexual identity/practice

In this section we explore levels of social connectedness—including the strength and size of social relationships—in relation to sexual identity/practice. By looking at both the size and connectedness of these relationships we can assess levels of bridging and bonding types of social capital. For example, a person with a very close connectedness with only one of the social groups mentioned below may be described as having bonded social capital. Another person with large networks spread across a diverse range of relationships might be described as having bridging social capital.

The strongest social connections overall were with female friends and family. Between gay/homosexual/queer men and bisexual/heterosexual men there were no differences in strength of connectedness with family and online gay and bisexual male friends (Table 24). Compared with bisexual/heterosexual/straight men, gay/homosexual/queer men had significantly stronger connections with offline gay and bisexual male friends, straight male friends and female friends.

As well as assessing the strength of connection between participants and their friends and family members, we also asked them to describe the size of these social networks (see Table 25). Between the two groups, there was no difference in the network sizes of online gay and bisexual male friends. With the exception of offline gay and bisexual male networks, for which gay/homosexual/queer men had larger networks, bisexual/heterosexual/straight men had larger networks of straight male friends, female friends and family.

Taken together, the findings for both strength of social connectedness and size of networks indicate that the bisexual/heterosexual/straight men in the sample generally had weaker social connections but larger social networks. This indicates that these two groups of men have different forms of social capital: the strength of social connectedness and smaller network size amongst gay/homosexual men indicate strong 'bonding', while the inverse pattern for bisexual/heterosexual men suggests stronger 'bridging' social capital.

Table 24: Strength of social connectedness with friends and family, by sexual identity/practice

	Gay/ Homosexual/ Queer	Bisexual/

3.7 Description of participants in summary

- The survey attracted a broad cross-section of MSM (gay, homosexually active, and same-sex-attracted men) from rural and urban areas across Australia.
- The proportions of the sample recruited from each Australian state and territory roughly mirrored the proportions found in the general population.
- Compared with samples from Gay Community Periodic Surveys across Australia, the e-male study recruited a higher proportion of men who were:
  - *young*
    About one quarter of the sample was under 25.
  - *bisexually identified or bisexually active*
    Almost 20% identified as bisexual and 8% were living with a female partner.
  - *living in rural or regional areas*
    40% of the sample was resident in rural or regional areas.
  - *untested for HIV*
    Nearly a quarter of the sample had never had an HIV test.
  - *not socially engaged with other gay men*
    Over one-third of the men in the sample did not have gay friends or spend time with other gay men.
- Men in the sample spent more time using the internet for leisure than for work.
- Younger men spent more time than older men using the internet for leisure.
- The types of male relationships that men had found online were quite diverse and included friends (60%), casual male sex partners (69%) and boyfriends/partners (31%).
- Fewer than 1 in 10 men had made no social or sexual contacts through the internet.
- Men generally had a range of friends, including online and offline gay and bisexual men, but they were most strongly socially connected to family members and female friends.
- While the weakest social connections were with online gay and bisexual friends, many online friendships develop from these online meetings.
- Men in the sample were, in general, trusting of others, but had some concerns about their safety in the context of meeting men online.
- Men in the sample generally did not regularly participate in or volunteer for community organisations
- Bisexual and straight men had weaker social connections but larger social networks, indicating that men identifying as bisexual/heterosexual had stronger 'bridging' social capital, while gay-identified men had stronger 'bonding' social capital.

4 Gay and bisexual male networks—online and offline

This section provides an overview of the core results of the e-male survey. There are many ways of presenting the results that would make both conceptual and practical sense. The results could be presented by sexual identity, age, regional location, HIV status or gay social engagement. In this section we present results based on whether participants had gay or bisexual male friends, and whether participants socialised with these friends online or offline. We classified men into four groups:

- no gay or bisexual male friends
- gay and bisexual male friends only online
- gay and bisexual male friends only offline
- both online and offline gay and bisexual male friends.

As will become apparent, this classification system was useful for identifying differences in the sample according to men's online and offline socialising patterns with other men who have sex with men. The classification system deliberately ignored men's friendships and relationships with other groups, for example women, heterosexual men, and family members. However, this sole focus on friendships with gay and bisexual men builds on previous work on 'gay community attachment' or 'gay social engagement', broadening the analysis to include bisexual men in both online and offline networks of men who have sex with men (Kippax et al., 1993; Dowsett, 1996). We believe these categories may prove useful in targeting education interventions.

Most of the sample had offline gay and bisexual male friends and a sizeable proportion had both offline and online gay and bisexual friends (Table 32). A minority of the sample had no gay or bisexual male friends.

Table 32: Gay and bisexual male friendship networks

	n	%
No gay or bisexual male friends	536	15.5
Gay and bisexual male friends only online	259	7.5
Gay and bisexual male friends only offline	1170	33.8
Both online and offline gay and bisexual male friends	1492	43.2
Total	**3457**	**100**

In the remainder of this report we will refer to categories 2 and 3 in Table 32 as 'online gay and bisexual male friends only' and 'offline gay and bisexual male friends only', respectively, as this will alert the reader to the fact that these two groups are differentiated by whether their gay and/or bisexual friends are online or offline. Bear in mind the word 'only' in these labels refers to participants' male gay or bisexual friends and does not mean they have no straight, female or other friends.

The men with only offline gay and bisexual male friends tended to be older than men in the other categories. Men in the two groups with any online gay and bisexual friends tended to be younger than other men (Table 33).

Men who had no gay or bisexual male friends or had only online gay and bisexual male friends were significantly more likely to identify as bisexual/heterosexual in comparison with men who had any offline gay or bisexual male friends. Men with any offline gay or bisexual friends were more likely to identify as gay, homosexual or queer (Table 34).

Men who had no gay or bisexual male friends or only online gay/bisexual friends (i.e. men without offline gay or bisexual male friends) were less likely than other men to have ever had an HIV test. Men with only offline gay and bisexual male friends were more likely to be HIV-positive in comparison with other men (Table 35).

When we looked at online and offline gay and bisexual male networks, we found that men with only offline gay/bisexual male friends or men with both online and offline gay/bisexual friends were more likely to be classified as 'gay socially engaged' compared with other men (Table 36). Men who said they had no gay/bisexual male friends, or only online gay/bisexual friends, were, perhaps unsurprisingly, less likely to be socially engaged with other gay men. However, over one in five of those who said they had no gay or bisexual male friends were still classed as 'gay socially engaged' on our two-item measure. This reflects the fact these men reported spending at least some of their time with gay men (despite having no gay friends), and underscores

Table 33: Age of participants, by gay and bisexual male friendship networks

	No gay or bisexual male friends *n* (%)	Online gay and bisexual friends only *n* (%)	Offline gay and bisexual friends only *n* (%)	Both online and offline gay and bisexual friends *n* (%)	Total *n* (%)
16–19	43 (8.0)	30 (11.6)	41 (3.5)	118 (7.9)	232 (6.7)
20–25	124 (23.1)	70 (27.0)	156 (13.3)	382 (25.6)	732 (21.2)
26–29	47 (8.8)	32 (12.4)	96 (8.2)	185 (12.4)	360 (10.4)
30–39	133 (24.8)	54 (20.8)	318 (27.2)	359 (24.1)	864 (25.0)
40–49	109 (20.3)	40 (15.4)	332 (28.4)	287 (19.2)	768 (22.2)
50+	80 (14.9)	33 (12.7)	227 (19.4)	161 (10.8)	501 (14.5)
Total	**536 (100)**	**259 (100)**	**1170 (100)**	**1492 (100)**	**3457 (100)**

^{2} (15) = 168.94, p = 0.000

Table 34: Sexual identity, by gay and bisexual male friendship networks

	No gay or bisexual male friends *n* (%)	Online gay and bisexual friends only *n* (%)	Offline gay and bisexual friends only *n* (%)	Both online and offline gay and bisexual friends *n* (%)	Total *n* (%)
Gay/Homosexual/Queer	281 (52.4)	156 (60.2)	1002 (85.6)	1284 (86.1)	2723 (78.8)
Bisexual/Heterosexual/ Straight	255 (47.6)	103 (39.8)	168 (14.4)	208 (13.9)	734 (21.2)
Total	**536 (100)**	**259 (100)**	**1170 (100)**	**1492 (100)**	**3457 (100)**

^{2} (3) = 356.08, p = 0.000. (Linear trend: Mantel Haenzel (1) = 296.59, p = 0.000)

Table 35: HIV status, by gay and bisexual male friendship networks

	No gay or bisexual male friends *n* (%)	Online gay and bisexual friends only *n* (%)	Offline gay and bisexual friends only *n* (%)	Both online and offline gay and bisexual friends *n* (%)	Total *n* (%)
No test/Don't know the result	204 (42.1)	97 (40.8)	194 (17.5)	327 (23.3)	822 (25.4)
HIV-negative	256 (52.8)	133 (55.9)	768 (69.4)	974 (69.5)	2131 (66.0)
HIV-positive	25 (5.2)	8 (3.4)	144 (13.0)	101 (7.2)	278 (8.6)
Total	**485 (100)**	**238 (100)**	**1106 (100)**	**1402 (100)**	**3231 (100)**

^{2} (6) = 167.86, p = 0.000

Table 36: Gay social engagement, by gay and bisexual male friendship networks

	No gay or bisexual male friends *n* (%)	Online gay and bisexual friends only *n* (%)	Offline gay and bisexual friends only *n* (%)	Both online and offline gay and bisexual friends *n* (%)	Total *n* (%)
Not socially engaged with gay men	422 (78.7)	181 (69.9)	280 (23.9)	316 (21.2)	1199 (34.7)
Socially engaged with gay men	114 (21.3)	78 (30.1)	890 (76.1)	1176 (78.8)	2258 (65.3)
Total	**536 (100)**	**259 (100)**	**1170 (100)**	**1492 (100)**	**3457 (100)**

^{2} (3) = 780.53, p = 0.000. (Linear trend: Mantel Haenzel (1) = 664.05, p = 0.000)

that we should be careful in thinking of men as 'attached' to gay communities when their contact with gay men may be casual or infrequent or they report no enduring relationships with gay men.

Men with offline gay and bisexual male friends were more likely than other men to live in a capital city (Table 37). Men with no offline gay or bisexual friends were more likely than other men to live in a smaller city or town or a rural or remote area.

4.2 Use of the internet and gay and bisexual male networks

Men with online gay and bisexual male friends understandably spent more time using the internet for leisure in comparison with other men (Table 38), and also spent more time looking for sex partners online (Table 39).

Table 37: Regional location, by gay and bisexual male friendship networks

	No gay or bisexual male friends	Online gay and bisexual friends only	Offline gay and bisexual friends only	Both online and offline gay and bisexual friends	Total
	n (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
The capital city of your state or territory					

4.3 Online health material and gay and bisexual male networks

Men with online gay and bisexual male friends were more

4.4 HIV testing and gay and bisexual male networks

Men with offline gay and bisexual male friends were more likely than others to have ever had an HIV test (Table 45).

Of the men who had ever had an HIV test, those with offline gay and bisexual male friends had been tested more recently than other men (Table 46).

4.5 Sexual practice, risk and gay and bisexual male networks

Men who had no offline gay or bisexual male friends were the most likely to have had sex with both men and women in the previous six months (Table 47). Men who had offline gay and bisexual male friends were the most likely to have had sex with men only.

Men with offline gay and bisexual male friends were more likely than other men to have had both regular and casual male partners in the previous six months (Table 48). Men who had no offline gay or bisexual friends were more likely than other men to have had casual male partners only in that same period.

4.6 Regular partners and gay and bisexual male networks

Men with offline gay and bisexual male friends were more likely than other men to have had sex with a regular male partner in the previous six months (Table 49).

Amongst the men who had had sex with a regular male partner in the previous six months, there was little difference in rates of unprotected anal intercourse (UAI) with those partners (Table 50). Men with no gay or bisexual male

Table 44: Recognition of www.thedramadownunder.info, by gay and bisexual male friendship networks

	No gay or bisexual male friends *n* (%)	Online gay and bisexual friends only *n* (%)	Offline gay and bisexual friends only *n* (%)	Both online and offline gay and bisexual friends *n* (%)	Total *n* (%)
Not aware of this site	320 (85.3)	155 (82.0)	748 (76.2)	962 (76.2)	2185 (77.8)
Aware, but did not use	29 (7.7)	9 (4.8)	143 (14.6)	153 (12.1)	334 (11.9)
I used/visited this site	26 (6.9)	25 (13.2)	90 (9.2)	148 (11.7)	289 (10.3)

friends were the least likely to have had anal intercourse with their regular male partner in the previous six months.

Men with no offline gay or bisexual male friends were the most likely to have met their current regular male partner online (Table 51).

Men who had both online and offline gay and bisexual male friends were the most likely to say the casual male partners they had met online knew their HIV status (Table 54). Men who had both online and offline gay and bisexual friends were also the most likely to report that they knew the HIV status of the casual partners they had met online (Table 55).

4.8 Casual partners met offline and gay and bisexual male networks

There was no statistical difference in the number of casual partners met offline as a function of gay and bisexual male networks (Table 56).

There were also no differences in rates of anal intercourse, condom use or unprotected anal intercourse with casual

Table 54: Did casual partners met online know the participant's HIV status? (by gay and bisexual male friendship networks)

	No gay or bisexual friends *n* (%)	Online gay and bisexual friends only *n* (%)	Offline gay and bisexual friends only *n* (%)	Both online and offline gay and bisexual friends *n* (%)	Total *n* (%)
No, none of them	46 (38.3)	29 (44.6)	91 (36.4)	122 (25.5)	288 (31.5)
Yes, some of them	12 (10.0)	7 (10.8)	42 (16.8)	127 (26.5)	188 (20.6)
Yes, all of them	47 (39.2)	20 (30.8)	93 (37.2)	181 (37.8)	341 (37.3)
Don't know	15 (12.5)	9 (13.8)	24 (9.6)	49 (10.2)	97 (10.6)
Total	**120 (100)**	**65 (100)**	**250 (100)**	**479 (100)**	**914 (100)**

^{2} (9) = 34.50, *p*

male partners met offline across men with different gay and bisexual male friends (Table 57).

Men who had offline gay and bisexual male friends were more likely to say that the casual partners they had met offline knew their HIV status. This was particularly the case for men who had both online and offline gay and bisexual male friends (Table 58).

Participants who had offline gay and bisexual male friends were more likely to know the HIV status of the casual partners they met offline, particularly if they also had online gay and bisexual male friends (Table 59).

4.9 Health, well-being and gay and bisexual male networks

Men with offline gay and bisexual male friends rated their quality of life slightly higher than other men while men with only online gay and bisexual male friends rated their quality of life the poorest of the four groups (Table 60).

There was little difference in how men with different gay and bisexual male networks rated their health in general for the previous two weeks. The majority of men rated their health as 'very good' or 'excellent' (Table 61).

Table 58: Did casual partners met offline know the participant's HIV status? (by gay and bisexual male friendship networks)

	No gay or bisexual male friends *n* (%)	Online gay and bisexual friends only *n* (%)	Offline gay and bisexual friends only *n* (%)	Both online and offline gay and bisexual friends *n* (%)	Total *n* (%)
No, none of them	38 (64.4)	12 (50.0)	80 (38.3)	76 (26.7)	206 (35.7)
Yes, some of them	4 (6.8)	3 (12.5)	57 (27.3)	91 (31.9)	155 (26.9)
Yes, all of them	11 (18.6)	6 (25.0)	54 (25.8)	84 (29.5)	155 (26.9)

4.10 Social capital and gay and bisexual male networks

In this section we explore levels of social capital across the four gay and bisexual network groups. This analysis helps us understand the role of the internet in building social capital and whether the social capital that is built can be characterised as bridging or bonding, as described earlier in section 1.2.

Strength of social connectedness with all groups of friends and family was weakest amongst men with no gay or bisexual male friends (Table 62). Having no gay or bisexual male friends appears to be an indicator of being less connected with other friends and family members, being less trusting

Table 60: Self-rated quality of life, by gay and bisexual male friendship networks

	No gay or bisexual male friends *n* (%)	Online gay and bisexual friends only *n* (%)	Offline gay and bisexual friends only *n* (%)	Both online and offline gay and bisexual friends *n* (%)	Total *n* (%)
Very good, my life could hardly be better					

Men who had only offline gay and bisexual male friends also had significantly smaller networks of offline gay and bisexual friends compared with men with both online and offline gay and bisexual friends. Men with both online and offline gay and bisexual friends had similar numbers of online gay and bisexual friends to men who only socialised with gay and bisexual men through the internet.

These findings suggest that men who have any online gay and bisexual friends are more embedded in heterosexual and family networks. Men who have only offline gay and bisexual friends have the smallest but most evenly distributed friend and family networks.

- For men who have sex with men in Australia, having any online gay or bisexual male friends is a marker of more robust, trusting and secure social networks, with men, women and family members. Having online gay or bisexual friendships is a marker of stronger overall ties—the internet appears to have an additive or strengthening effect on social relationships for gay and bisexual men who can make friends online.
- It is difficult, from our data, to say whether the internet in itself facilitates better and supportive relationships or whether those who are more adept at forming social relationships are more likely to make use of the internet to form new social bonds. However, the former explanation (internet use increases sociality) appears less likely because a minority of men we recruited online, and who clearly used the internet, had no gay or bisexual male friends. These men had the weakest overall social relationships (we might regard them as more socially isolated than other men), yet used the internet for a reasonable amount of time each week. Internet use in itself does not appear to have facilitated an increase in the number of friendships or social capital for these men, suggesting that socially isolated men can remain isolated even when using the internet, and that socially adept men make use of the internet to broaden their social networks..

Table 69: Employment status in Sydney and NSW

	Men in NSW (e-male 2008)[1] *n* (%)	Men in Sydney (e-male 2008)[2] *n* (%)	Sydney GCPS (2008)[3] *n* (%)
Full-time	875 (72.0)	414 (81.0)	1626 (74.1)
Part-time	97 (8.0)	30 (5.9)	175 (8.0)
Unemployed	39 (3.2)	11 (2.2)	94 (4.3)
Student	114 (9.4)	29 (5.7)	145 (6.6)
Social security	81 (6.7)	15 (2.9)	63 (2.9)
Other	9 (0.7)	12 (2.4)	91 (4.1)
Total	**1215 (100)**	**511 (100)**	**2194 (100)**

1 E-male study participants living in NSW

2 E-male study participants who are socially engaged with gay men and living in Sydney (subset of e-male participants in NSW)

3 Participants from the 2008 Sydney Gay Community Periodic Survey

Men from the Sydney GCPS were more likely to have had an HIV test than men from the two e-male samples, although e-male participants from Sydney who were socially engaged with gay men were broadly similar to the Sydney GCPS sample (Table 70). The proportion of untested men was notably high among e-male participants living in New South Wales, suggesting an opportunity to use the internet to reach these men and promote HIV testing.

Table 70: HIV status in Sydney and NSW

	Men in NSW (e-male 2008)[1] *n* (%)	Men in Sydney (e-male 2008)[2] *n* (%)	Sydney GCPS (2008)[3] *n* (%)
No test/Don't know the result	289 (25.5)	68 (14.1)	155 (7.1)
HIV-negative	738 (65.2)	353 (73.4)	1736 (79.2)
HIV-positive	105 (9.3)	60 (12.5)	302 (13.8)
Total	**1132 (100)**	**481 (100)**	**2193 (100)**

1 E-male study participants living in NSW

2 E-male study participants who are socially engaged with gay men and living in Sydney (subset of e-male participants in NSW)

3 Participants from the 2008 Sydney Gay Community Periodic Survey

Amongst those men who had been tested for HIV, testing patterns were similar (Table 71). The majority of men in all three samples had been tested in the previous six months.

Table 71: Most recent HIV test in Sydney and NSW (only those who had been tested for HIV)

	Men in NSW (e-male 2008)[1]	Men in Sydney (e-male 2008)[2]	Sydney GCPS (2008)[3]

Men in the Sydney e-male sample were more likely than men in the other two samples to have had two or more male sexual partners in the previous six months (Table 73).

Table 73: Number of male sex partners in the last six months in Sydney and NSW

	Men in NSW (e-male 2008)[1] *n* (%)	Men in Sydney (e-male 2008)[2] *n* (%)	Sydney GCPS (2008)[3] *n* (%)
None	173 (14.2)	43 (8.4)	314 (14.5)
One	158 (13.0)	51 (10.0)	379 (17.4)
2 to 10	583 (48.0)	235 (46.0)	633 (29.1)
More than 10	301 (24.8)	182 (35.6)	847 (39.0)
Total	**1215 (100)**	**511 (100)**	**2173 (100)**

1 E-male study participants living in NSW

2 E-male study participants who are socially engaged with gay men and living in Sydney (subset of e-male participants in NSW)

3 Participants from the 2008 Sydney Gay Community Periodic Survey

Men from New South Wales in the e-male survey were the least likely to have had a casual or regular male sexual partner in the previous six months (Table 74). Men in the Sydney GCPS were more likely than men in either of the e-male samples to have had a regular partner only or a casual partner only. Men in both e-male samples were more likely than Sydney GCPS men to have had both casual and regular male partners in the previous six months.

Table 74: Regular and casual partners in the last six months in Sydney and NSW

	Men in NSW (e-male 2008)[1] *n* (%)	Men in Sydney (e-male 2008)[2] *n* (%)	Sydney GCPS (2008)[3] *n* (%)
No regular or casual partners	208 (17.1)	54 (10.6)	203 (10.3)
Casual partners only	264 (21.7)	115 (22.5)	558 (28.3)
Regular partners only	132 (10.9)	52 (10.2)	464 (23.5)
Casual and regular partners	611 (50.3)	290 (56.8)	748 (37.9)
Total	**1215 (100)**	**511 (100)**	**1973 (100)**

1 E-male study participants living in NSW

2 E-male study participants who are socially engaged with gay men and living in Sydney

3 Participants from the 2008 Sydney Gay Community Periodic Survey

Amongst the men who had a casual male partner in the previous six months, e-male participants from Sydney were the most likely to have had anal intercourse (Table 75).

Table 75: Anal intercourse and condom use with casual male partners in the last six months in Sydney and NSW

	Men in NSW (e-male 2008)[1] *n* (%)	Men in Sydney (e-male 2008)[2] *n* (%)	Sydney GCPS (2008)[3] *n* (%)
No anal intercourse	73 (15.9)	24 (10.9)	284 (19.3)
No unprotected anal intercourse	237 (51.5)	125 (56.6)	758 (51.6)
Any unprotected anal intercourse	150 (32.6)	72 (32.6)	428 (29.1)
Total	**460 (100)**	**221 (100)**	**1470 (100)**

1 E-male study participants living in NSW

2 E-male study participants who are socially engaged with gay men and living in Sydney (subset of e-male participants in NSW)

3 Participants from the 2008 Sydney Gay Community Periodic Survey

Men in both e-male samples were more likely than men in the Sydney GCPS to have had unprotected anal intercourse with their regular male partner in the previous six months (Table 76). This result may or may not indicate greater risk of HIV transmission amongst the e-male men. To understand the relative risk it would be important to factor into the analyses the serostatus of the study participant and their regular male partner. partner in the

Table 77: Sexual identity in Melbourne and Victoria

	Men in Victoria (e-male 2008)[1] *n* (%)	Men in Melbourne (e-male 2008)[2] *n* (%)	Melbourne GCPS (2008)[3] *n* (%)
Gay/Homosexual	593 (76.7)	327 (86.3)	1788 (89.9)
Bisexual	151 (19.5)	35 (9.2)	133 (6.7)
Heterosexual/Straight	8 (1.0)	1 (0.3)	37 (1.9)
Queer	13 (1.7)	11 (2.9)	–
Other	8 (1.0)	5 (1.3)	31 (1.6)
Total	**773 (100)**	**379 (100)**	**1989 (100)**

1 E-male study participants living in Victoria

2 E-male study participants who are socially engaged with gay men and living in Melbourne (subset of e-male participants in Victoria)

3 Participants from the 2008 Melbourne Gay Community Periodic Survey

Men living in Victoria from the e-male survey were the youngest of the three groups, while gay socially engaged e-male men living in Melbourne were the oldest (Table 78).

Table 78: Age of participants in Melbourne and Victoria

	Men in Victoria (e-male 2008)[1] *n* (%)	Men in Melbourne (e-male 2008)[2] *n* (%)	Melbourne GCPS (2008)[3] *n* (%)
16–19	49 (6.3)	7 (1.8)	82 (4.1)
20–25	176 (22.8)	65 (17.2)	360 (18.0)
26–29	91 (11.8)	45 (11.9)	280 (14.0)
30–39	198 (25.6)	114 (30.1)	613 (30.7)
40–49	178 (23.0)	101 (26.6)	411 (20.6)
50+	81 (10.5)	47 (12.4)	253 (12.7)
Total	**773 (100)**	**379 (100)**	**1999 (100)**

1 E-male study participants living in Victoria

2 E-male study participants who are socially engaged with gay men and living in Melbourne (subset of e-male participants in Victoria)

3 Participants from the 2008 Melbourne Gay Community Periodic Survey

There was a higher proportion of Aboriginal and Torres Strait Islander participants in the Melbourne GCPS sample compared with the e-male samples from Victoria and Melbourne (Table 79).

Men in the e-male samples had lower levels of educational attainment than men in the Melbourne GCPS (Table 80). This result cannot simply reflect an age or generational effect as age was relatively similar across the two samples (see Table 78 above).

Table 80: Education levels in Melbourne and Victoria

	Men in Victoria (e-male 2008)[1] *n* (%)	Men in Melbourne (e-male 2008)[2] *n* (%)	Melbourne GCPS (2008)[3] *n* (%)
School certificate or less	90 (11.8)	102 (23.0)	178 (9.1)
Year 12/HSC/VCE, etc	152 (19.9)	67 (15.1)	384 (19.7)
Diploma/Trade certificate/TAFE	194 (25.4)	81 (18.3)	332 (17.0)
University degree	327 (42.9)	193 (43.6)	1057 (54.2)
Total	**763 (100)**	**443 (100)**	**1951 (100)**

1 E-male study participants living in Victoria

2 E-male study participants who are socially engaged with gay men and living in Melbourne (subset of e-male participants in Victoria)

3 Participants from the 2008 Melbourne Gay Community Periodic Survey

Men in both e-male samples were more likely than men in the Melbourne GCPS sample to have had both casual and regular male partners in the previous six months, and were less likely to have had only regular partners or casual partners (Table 86).

Table 86: Regular and casual male sexual partners in the last six months in Melbourne and Victoria

	Men in Victoria (e-male 2008)[1] *n* (%)	Men in Melbourne (e-male 2008)[2] *n* (%)	Melbourne GCPS (2008)[3] *n* (%)
No regular or casual partners	112 (14.5)	35 (9.2)	198 (9.9)
Casual partners only	162 (21.0)	75 (19.8)	579 (29.4)
Regular partners only	70 (9.1)	40 (10.6)	523 (26.2)
Casual and regular partners	429 (55.5)	229 (60.4)	684 (34.5)
Total	**773 (100)**	**379 (100)**	**1984 (100)**

1 E-male study participants living in Victoria

2 E-male study participants who are socially engaged with gay men and living in Melbourne (subset of e-male participants in Victoria)

3 Participants from the 2008 Melbourne Gay Community Periodic Survey

Men from both the Melbourne and Victorian e-male samples were more likely to have had anal sex in the previous six months compared with men from the Melbourne GCPS, were less likely to always use condoms and more likely to have had unprotected anal intercourse with their casual partners (Table 87).

Table 87: Anal intercourse and condom use with casual male partners in the last six months in Melbourne and Victoria

	Men in Victoria (e-male 2008)[1] *n* (%)	Men in Melbourne (e-male 2008)[2] *n* (%)	Melbourne GCPS (2008)[3] *n* (%)
No anal intercourse	61 (22.0)	30 (20.8)	340 (23.8)
No unprotected anal intercourse	117 (42.2)	60 (41.7)	671 (46.9)
Any unprotected anal intercourse	99 (35.7)	54 (37.5)	420 (29.4)
Total	**27**		

The two samples from the e-male survey had slightly more men aged over 40 compared with the Brisbane sample from the Queensland GCPS (Table 90).

Table 90: Age of participants in Brisbane and Queensland

	Men in Queensland (e-male 2008)[1] *n* (%)	Men in Brisbane (e-male 2008)[2] *n* (%)	Brisbane (Queensland GCPS 2008)[3] *n* (%)
16–19	46 (7.6)	10 (4.9)	54 (5.6)
20–25	157 (25.8)	52 (25.6)	256 (26.4)
26–29	85 (14.0)	34 (16.7)	128 (13.2)
30–39	123 (20.2)	45 (22.2)	292 (30.1)
40–49	117 (19.2)	43 (21.2)	155 (16.0)
50+	80 (13.2)	19 (9.4)	86 (8.9)
Total	**608 (100)**	**203 (100)**	**971 (100)**

1 E-male study participants living in Queensland

2 E-male study participants who are socially engaged with gay men and living in Brisbane (subset of e-male participants in Queensland)

3 Participants living in Brisbane from the 2008 Queensland Gay Community Periodic Survey

There was a higher proportion of Aboriginal or Torres Strait Islander participants in the Queensland GCPS sample than in either e-male sample (Table 91). As this is a similar finding to those from the analyses conducted with New South Wales and Victorian data, this suggests that it could be more difficult to reach Aboriginal or Torres Strait Islander men who have sex with men using the internet.

Table 91: Aboriginal and Torres Strait Islander origin in Brisbane and Queensland

	Men in Queensland (e-male 2008)[1] *n* (%)	Men in Brisbane (e-male 2008)[2] *n* (%)	Brisbane (Queensland GCPS 2008)[3] *n* (%)
Aboriginal or Torres Strait Islander origin	16 (2.6)	5 (2.5)	39 (4.0)
Not of ATSI origin	592 (97.4)	198 (97.5)	926 (96.0)
Total	**608 (100)**	**203 (100)**	**965 (100)**

1 E-male study participants living in Queensland

2 E-male study participants who are socially engaged with gay men and living in Brisbane (subset of e-male participants in Queensland)

3 Participants living in Brisbane from the 2008 Queensland Gay Community Periodic Survey

Men in the two Brisbane samples (from e-male and the Queensland GCPS) had similar levels of education (Table 92). Participants from Queensland in the e-male survey reported slightly lower levels of education than men in the other samples.

Employment levels were similar in both samples of men living in Brisbane, but there were fewer men in full-time employment in the e-male sample from Queensland (Table 93).

Table 92: Education levels in Brisbane and Queensland

	Men in Queensland (e-male 2008)[1] *n* (%)	Men in Brisbane (e-male 2008)[2] *n* (%)	Brisbane (Queensland GCPS 2008)[3] *n* (%)
School certificate or less	100 (16.9)	22 (11.0)	105 (10.8)
Year 12/HSC/VCE etc	142 (23.9)	43 (21.4)	261 (26.9)
Diploma/trade certificate/TAFE	155 (26.1)	56 (27.9)	201 (20.7)
University degree	196 (33.1)	80 (39.8)	403 (41.5)
Total	**593 (100)**	**201 (100)**	**970 (100)**

1 E-male study participants living in Queensland

2 E-male study participants who are socially engaged with gay men and living in Brisbane (subset of e-male participants in Queensland)

3 Participants living in Brisbane from the 2008 Queensland Gay Community Periodic Survey

Table 93: Employment status in Brisbane and Queensland

	Men in Queensland (e-male 2008)[1] *n* (%)	Men in Brisbane (e-male 2008)[2] *n* (%)	Brisbane (Queensland GCPS 2008)[3] *n* (%)
Full-time	403 (66.3)	150 (73.9)	692 (71.7)
Part-time	76 (12.5)	20 (9.9)	107 (11.1)
Unemployed	20 (3.3)	7 (3.4)	31 (3.2)
Student	53 (8.7)	16 (7.9)	80 (8.3)
Social security	51 (8.4)	5 (2.5)	21 (2.2)
Other	5 (0.8)	5 (2.5)	34 (3.5)
Total	**608 (100)**	**203 (100)**	**965 (100)**

Men from the Queensland GCPS were the most likely to have ever had an HIV test compared with the e-male samples (Table 94). Over a quarter of e-male participants living in Queensland had never had an HIV test.

There appeared to be no difference in recency of HIV testing between the three samples (Table 95).

Table 94: HIV status in Brisbane and Queensland

	Men in Queensland (e-male 2008)[1] *n* (%)	Men in Brisbane (e-male 2008)[2] *n* (%)	Brisbane (Queensland GCPS 2008)[3] *n* (%)
No test/Don't know the result	144 (25.6)	29 (14.9)	97 (10.4)
HIV-negative	382 (67.9)	150 (77.3)	777 (83.4)
HIV-positive	37 (6.6)	15 (7.7)	58 (6.2)
Total	**563 (100)**	**194 (100)**	**932 (100)**

1 E-male study participants living in Queensland

2 E-male study participants who are socially engaged with gay men and living in Brisbane (subset of e-male participants in Queensland)

3 Participants living in Brisbane from the 2008 Queensland Gay Community Periodic Survey

Men living in Queensland from the e-male survey were slightly more likely to report no anal intercourse with regular male partners compared with men from the other two samples (Table 100). A higher proportion of men in the e-male sample of men living in Brisbane reported unprotected anal intercourse with their regular male partner in the previous six months compared with the other two samples.

Table 100: Anal intercourse and condom use with regular male partners in the last six months in Brisbane and Queensland

	Men in Queensland (e-male 2008)[1] *n* (%)	Men in Brisbane (e-male 2008)[2] *n* (%)	Brisbane (Queensland GCPS 2008)[3] *n* (%)
No anal intercourse	44 (11.7)	13 (9.7)	48 (7.4)
No unprotected anal intercourse	92 (24.5)	29 (21.6)	207 (31.7)
Any unprotected anal intercourse	240 (63.8)	92 (68.7)	397 (60.9)
Total	**376 (100)**	**134 (100)**	**652 (100)**

1 E-male study participants living in Queensland

2 E-male study participants who are socially engaged with gay men and living in Brisbane (subset of e-male participants in Queensland)

3 Participants living in Brisbane from the 2008 Queensland Gay Community Periodic Survey

5.4 Comparisons between the e-male sample in Western Australia and Perth with the Perth GCPS sample in 2006

Gay socially engaged men living in Perth from the e-male survey were younger than the broader e-male sample from Western Australia and the men from the Perth GCPS.

The pattern of sexual identities was similar within the two Perth samples: the gay socially engaged men from the e-male survey and the men from the Perth GCPS (Table 101). Not surprisingly, in the broader e-male sample in Western Australia there was a smaller proportion of gay/homosexual men and a greater proportion of bisexual men.

Men from the e-male sample for Western Australia had the highest proportion of men aged 40 or above, while the gay socially engaged men living in Perth from e-male were slightly younger than the other two samples, with a larger proportion under 30 years of age (Table 102).

Men of Aboriginal and/or Torres Strait Islander origin were more likely to be recruited into the Perth GCPS than into the e-male survey (Table 103).

Table 101: Sexual identity in Perth and WA

	Men in WA (e-male 2008)[1] *n* (%)	Men in Perth (e-male 2008)[2] *n* (%)	Perth GCPS (2006)[3] *n* (%)
Gay/Homosexual	182 (72.5)	102 (88.7)	696 (87.4)
Bisexual	61 (24.3)	8 (7.0)	65 (8.2)
Heterosexual/Straight	3 (1.2)	1 (0.9)	23 (2.9)
Queer	5(2.0)	4 (3.5)	3 (0.4)
Other	–	–	9 (1.1)
Total	**251 (100)**	**115 (100)**	**796 (100)**

1 E-male study participants living in Western Australia

2 E-male study participants who are socially engaged with gay men and living in Perth (subset of e-male participants in Western Australia)

3 Participants from the 2006 Perth Gay Community Periodic Survey

Table 102: Age of participants in Perth and WA

	Men in WA (e-male 2008)[1] *n* (%)	Men in Perth (e-male 2008)[2] *n* (%)	Perth GCPS (2006)[3] *n* (%)
16–19	16 (6.4)	3 (2.6)	52 (6.6)
20–25	54 (21.5)	31 (27.0)	156 (19.9)
26–29	22 (8.8)	15 (13.0)	98 (12.5)
30–39	57 (22.7)	24 (20.9)	215 (27.5)
40–49	57 (22.7)	27 (23.5)	158 (20.2)
50+	45 (17.9)	15 (13.0)	104 (13.3)
Total	**251 (100)**	**115 (100)**	**783 (100)**

1 E-male study participants living in Western Australia

2 E-male study participants who are socially engaged with gay men and living in Perth (subset of e-male participants in Western Australia)

3 Participants from the 2006 Perth Gay Community Periodic Survey

Table 103: Aboriginal and Torres Strait Islander origin in Perth and WA

	Men in WA (e-male 2008)[1] *n* (%)	Men in Perth (e-male 2008)[2] *n* (%)	Perth GCPS (2006)[3] *n* (%)
Not of ATSI origin	248 (98.8)	114 (99.1)	752 (96.8)
Aboriginal or Torres Strait Islander origin	3 (1.2)	1 (0.9)	25 (3.2)
Total	**251 (100)**	**115 (100)**	**777 (100)**

Men from the Perth GCPS were slightly better educated than men from the e-male survey. Men from the e-male survey living in Perth were better educated than those living elsewhere in Western Australia (Table 104).

Table 104: Education levels in Perth and WA

	Men in WA (e-male 2008)[1] *n* (%)	Men in Perth (e-male 2008)[2] *n* (%)	Perth GCPS (2006)[3] *n* (%)
School certificate or less	54 (22.1)	21 (18.8)	97 (12.3)
Year 12/HSC/VCE, etc	42 (17.2)	18 (16.1)	167 (21.1)
Diploma/trade certificate/TAFE	55 (22.5)	24 (21.4)	172 (21.7)
University degree	93 (38.1)	49 (43.7)	355 (44.9)
Total	**244 (100)**	**112 (100)**	**791 (100)**

- to provide information that complements sero-surveillance and helps explain increases or decreases in HIV infection rates over time and across jurisdictions
- to provide a means of assessing the success of aspects of regional and national HIV strategies.

With regard to surveillance, there are four obvious ways in which online and offline surveys can be compared and evaluated. These are: continuity, effectiveness of recruitment and sampling, cost efficiency and ease of implementation.

Continuity

Continuity in recruitment and sampling is a key aspect of behavioural surveillance surveys conducted with gay and bisexual men. The GCPSs in particular try to maintain similar recruitment and sampling strategies for the purpose of sampling from the same population at the same times of the year and same sites to enable analyses of trends in behaviour and practice over time. A transition to online recruitment within any of the GCPSs runs the risk of disrupting the established recruitment method within the survey and may mean that trend analyses would need to restart from the time at which the first online study began. If this were to happen it would pose a significant risk to the quality of available surveillance data and to the capacity to monitor evolving trends in sexual and other practices. However, as the comparison of results in this chapter shows, it is possible with an online survey to obtain a core group of city-dwelling gay men, similar to those who currently take part in the GCPSs. Assuming this can be achieved, the issue to contend with is sample sizes and whether they are sufficient, particularly in the non-eastern states and territories (see below).

A further issue is whether the same type of men can be recruited on an ongoing basis. Continuity is important for the reasons mentioned above. So although an online sample such as e-male showed that a core group of the same men who currently take part in the GCPSs could be reached through the internet, there are some ongoing risks in reaching these men that relate to the changing nature of sites on the internet. However, men and the sites which they visit—either online or offline—change over time and it is also incumbent on those engaged in behavioural surveillance to ensure that those whom they are reaching are the 'same' men that they reached one, two, three or ten years ago. It could be argued that the growth in popularity of the internet as a 'location' in which gay and bisexual men seek out each other for social and sexual contact already generates some sampling error for the more traditional GCPS sampling methods suggesting that the GCPSs should include the internet as a recruitment 'site'.

Only conducting a repeated cross-sectional behavioural surveillance survey online may undermine continuity and generate inconsistencies in sampling, given that online environments are dynamic, with new sites emerging and competing for users, and existing sites changing the ways in which they function. Unlike a city, which has both physical and legislative constraints on the number of commercial venues that can operate, the internet has considerably fewer restrictions. The number of new websites that can emerge is potentially uncapped and it is to a large extent unknown how variable the online environment is or how this variability affects the composition and type of clientele at existing sites. Monitoring changes to the online environments in which gay and bisexual men participate and the popularity of different sites is currently difficult. In comparison, when changes in clientele in the real world occur they are visible. For these reasons there are several threats to the validity of trend data collected online. If these risks can be minimised, through the monitoring of online users and recruitment sources for example, as well as by weighting the sample, online GCPSs could retain continuity of data.

It is of course possible to manage the potential loss in continuity of data caused by a transition from traditional paper and pencil to online recruitment. The most obvious solu by ata caused by a transition of data caused by a [men s1ainew web T(ged (icTjT(*diffewer ctibmgc)Tj da ciffatly tVrstrictioble to,epas3o(and

Social Capital

The men in general had a broad range of social connections with family and friends, both gay and straight, and male and female. Overall they had slightly stronger ties with family members and female friends than with male friends. They were generally trusting of others, although some had concerns about their safety in the context of meeting men online. In general, they did not participate to any great extent in community group activities and were neutral in their feelings of responsibility towards gay community or their residential community. While bisexual and straight men had weaker social connections with others, they had larger social networks. On the other hand, gay-identified men had, in general, stronger social connections with others but smaller social networks, indicating that they had stronger 'bonding' social capital i.e. they had closer, tight-knit, friendships with their friends and family.

When we examined social capital in relation to internet use and gay/bisexual networks, that is, whether men had online or offline gay and bisexual friends, some interesting patterns emerged. While just over 15% of men reported that they had no gay and bisexual friends, 43% reported having both online and offline gay male friends. And while 34% reported having only offline gay and bisexual male friends, just over 7% of men had online gay and bisexual male friends only. Social connectedness with gay and bisexual male friends, our major measure of social capital, was strongest for men who had either online or offline gay and bisexual male friends. However not only did men who had no gay or bisexual friends have weaker social connections with either online or offline gay and bisexual male friends, they also had weaker social connections with male heterosexual friends, female friends, and family members. These men also had lower trust in others, were less likely to rely on others or offer support to others, and with the exception of those who had online gay friends only, were less likely to participate in community activities. In general the men with no gay or bisexual friends appear to be relatively socially isolated. The size of their networks was also small when compared with men with any online gay or bisexual male friends. Men with offline gay and bisexual male friends only also had small networks of male heterosexual friends, female friends or family members.

Three general patterns emerge:

1. strong social capital—both bridging and bonding—among men with any online gay or bisexual male friends. These men have strong social connections and large networks with gay or bisexual male friends, male heterosexual friends, female friends and family members
2. strong bonding social capital among men with offline gay and bisexual friends only. These men have strong social connections but smaller networks of friends and family
3. lower levels of social capital—either bridging or bonding—among men with no gay and bisexual friends. These men have both weaker social connections and smaller networks of all kinds.

The men with lower levels of social capital (3) are more likely to identify as bisexual, have sex with both men and women, and live in a small city or town. They are the least likely of all the men to have been tested for HIV, most likely to have sex with casual male partners only and least likely to have engaged in anal intercourse in the six months prior to interview.

The men with only offline gay and bisexual friends (2), i.e. those with strong bonding social capital, are clearly similar to those men to whom we have referred in the past as gay-community-attached or socially engaged with gay men. When compared with other men in the sample, they are slightly older, more likely to be HIV-positive, more likely to live in a capital city, more likely to participate in community groups, and more likely than men with no offline gay and bisexual male friends to have had sex with a regular male partner in the six months prior to interview.

The other two groups of men—those with only online gay and bisexual male friends and those with both online and offline gay and bisexual male friends, (1)—are somewhat similar to each other in terms of social capital. They have strong social connections and large social networks. Those with online gay and bisexual male friends only are more likely to be younger and more likely to identify as bisexual, and they are also less likely to have been tested for HIV than men with both offline and online gay and bisexual male friends. They also rate their quality of life lower than the other three groups of men.

The internet builds on men's social capital by extending the ways in which they can build friendships or sociality more generally. The internet is clearly an important site—especially for younger men—from which to engage with other men who are exploring their sexuality and meeting and chatting with others with a sexual interest in men.

While men with only offline gay and bisexual male friends spent less time than others looking for sexual partners on the internet, the vast majority still looked for male partners online. On the other hand, most men did not use the internet for sexual health information and those who did so most were those with any online gay and bisexual male friends. Awareness of health promotional material created

by Australian community-based HIV organisations appears not to be a good indicator of who might use the internet for sexual health material, although the findings indicate that the men with the least social capital are the least likely to be aware of these sites or to use them. However, the internet clearly provides a medium through which to reach men for education and health promotion—especially younger men and men who live outside capital cities.

Gay Community Periodic Survey comparisons

The e-male study has demonstrated that a broad cross-section of MSM living in Australia can be reached and recruited into an online study, repeating the success of other studies (e.g. Pitts et al., 2006). However, although roughly representative of numbers of adult men in each state, the numbers of MSM from the non-Eastern states were comparatively small when compared with the samples recruited in the GCPSs.

As pointed out in section 5.5, there are a number of advantages and disadvantages in pursuing a sole recruitment strategy, either online or offline. The findings indicate that the internet is an important site for accessing gay and bisexual men and engaging with them, indeed not to do so may mean that researchers involved in behavioural surveillance and social research will miss a growing population of MSM, many of whom are using the internet in ways that earlier generations of men used gay bars, sex clubs, saunas and beats to meet, talk to and engage with like-minded men. In addition, the fact that the internet provides social capital to MSM suggests that it is a useful medium for effective health promotion and HIV-prevention education.

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