

Victorian Networks Study

Technical Report

Method, Sample and Preliminary Findings

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Foreword

This report represents the first publication of findings from the Victorian Networks Study (*Vines*). *Vines* is the first comprehensive investigation into the social and sexual networks of gay men in Australia. It is unique in that these networks are the primary focus of the study and the principal unit of analysis. Networks are the dynamic social systems through which HIV is spread, and the structures which facilitate the communication of HIV prevention messages, provide the normative reference for individuals' social practices, and enable and constrain safe sex cultures. Networks, therefore, are central to our understandings of the HIV/AIDS epidemic, and our understandings of networks are critical to our success in HIV prevention.

This report describes the sample obtained from the study and begins the analysis of network characteristics. The description of the sample does more than examine the sexual practices and beliefs of the participants. It places the participants within social contexts. It examines many of the social and relational characteristics of homosexually active men that are central to educational practices and service delivery in the HIV sector. These characteristics have rarely been examined empirically and our assumptions about them have rarely been challenged.

The second part of the report takes these social contexts as the unit of analysis, and compares participants in three different ways. Each of these gives us a different view of the social milieu inhabited by the respondents. We begin with comparisons between participants with structurally different social networks. In this analysis, the comparison is between those with different sized close and broader social networks. The second contextual analysis is by age cohort. Here we are interested in the ways in which both age and historical relation to the HIV/AIDS epidemic constructs different forms of social relationships.

The third section, where participants are grouped by network density, takes us closer to a true network analysis, and prefigures the sort of findings that you can expect to see from these data in the future.

A final section of the report introduces the analyses that will be presented in the detailed issues papers. These analyses are based on the enumerated social and sexual networks of the participants and the characteristics of network members.

These analyses are presented as examples of the shift in focus that *Vines* encourages us to make, both within research and in the application of research to public health practice. Further analyses of these data will be made available through peer-reviewed publications and a series of detailed issues papers addressing specific aspects of gay men's relationality. In addition, the findings of this research are being used to construct three action research projects that, as with *Vines*, will continue the fruitful collaboration between ARCSHS and VAC/GMHC.

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Introduction

This is a technical report on the method, sample, and preliminary findings of the Victorian Networks Study. It is a technical report in that its purpose is to present the findings without a detailed interpretive framework. It is a reference document that provides the foundations upon which researchers and educators will develop further analyses and design action research interventions. The target audience for this document is researchers, HIV/gay community educators and policy makers.

Vines is a quantitative study of the social, sexual and informational networks of homosexually active men in Melbourne.

The aims of the study are to:

- Characterise the social, sexual and informational networks of homosexually active men in Melbourne
- Investigate the characteristics of these networks which are associated with HIV-related, knowledge, attitudes and risk practices;
- Empirically and theoretically inform the development of action oriented educational responses to the current increase in HIV infection in Victoria

Background

In order to adequately address the recent increase in HIV infection in Melbourne, prevention education needs to target the appropriate social and sexual contexts in which unprotected sex takes place

Currently, we are aware that there has been an increase in rates of unprotected anal intercourse among gay men (van de Ven et al, 2002). This is a complex phenomena mediated by HIV status, negotiated arrangements within regular and casual relationships and contact with the HIV/AIDS epidemic. We also know, from social research and the experience of prevention education practice, that decisions around protected and unprotected sex are highly dependent on contextual factors like geographical site, alcohol and drugs, access to means of prevention and emotional state.

These phenomena are not stable, changing as the realities of the epidemic and the meanings around infectivity, prevention and sexual practice change. They are also clearly embedded in the specific local cultures of sexual practice and social relations. While we have an understanding of the basic principles that guide prevention education among gay men, we do not have an adequate understanding of the specific current contexts of gay sexual practice in Melbourne. There has been no substantial empirical inquiry into the sexual culture of homosexually active men in Melbourne since the Melbourne Men and Sexual Health study in 1994 (Prestage et al, 1996). We cannot assume that the sexual culture has remained the same since then.

While community engagement and the use of culturally specific interventions remain basic principles of prevention education, we cannot assume that the relationship between community attachment and prevention strategies has remained stable. Research, such as that conducted in Melbourne, for example the CASE (Community, Attachments, Structures and the Epidemic) study (Grierson, 1998), SSAY (Same Sex Attracted Youth)

(Hillier et al, 1998), and results from the CEWT (Community Education Workforce and Training) (Misson et al, 2000) and HIGH (Hepatitis, Injecting & Gay Health) (Dowsett et al, 2002) studies, strongly suggest that homosexually active men no longer engage with the gay community in the same way as they did in the early years of the HIV epidemic. Indeed many gay men who have come out in the recent years of the epidemic do not appear to have a strong connection to gay community either as a physical or social entity, nor do they have primarily gay social networks. Other research conducted in Sydney (for example that conducted by the National Centre in HIV Social Research reported in Mao et al, 2002) and that conducted by David McInnes and Jonathan Bollen with the AIDS Council of NSW (Bollen et al, 2000, Dowsett et al, 2001, McInnes et al, 2000) indicate that understanding the specific local context of gay sociality is essential to effectively targeting prevention education.

We do not have adequate empirical knowledge regarding the geography of sexual practice among homosexually active men in Melbourne. Anecdotal evidence and the experience of HIV prevention education workers may point toward sex on premises venues, use of beats or internet cruising, but without clear and reliable information we may waste a great deal of effort and resources pursuing sub-optimal prevention education strategies.

While there is clearly a need for a rapid prevention education response in the sites and contexts that are believed to be related to the increase in unprotected anal intercourse and HIV transmission, there is also a clear need for this work to be reflexively engaged with research that clarifies and characterizes these contexts. This social research response consists of two integrated projects, the first mapping the social and behavioural contexts of UAI, and the second a set of action research projects that will focus on specific identified local contexts to refine and focus prevention educational practice. The partners in this process are the Australian Research Centre in Sex, Health and Society and the Victorian AIDS Council/Gay Men's Health Centre.

Funding

The Victorian Networks Study is funded principally through a grant provided by the Victorian Government through the Department of Human Services.

Ethics approval

Vines has been approved by the La Trobe University Human Ethics Committee and the VAC/GMHC Research Promotion and Ethics Committee.

Acknowledgements

213 people completed the Vines questionnaire. We are grateful for their interest in research conducted by the Australian Research Centre in Sex, Health and Society, and thank them for their willingness to participate. We would also like to thank Kirk Peterson, Greg Horne and David Stephens for their diligent work conducting interviews for this study.

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We would also like to thank our colleagues at the Australian Research Centre in sex, Health and Society, particularly Marian Pitts, Gary Dowsett and the administrative staff.

Methodology

Overview

Vines is a quantitative study using an interviewer administered survey instrument. Participants were recruited using a combination of generative network sampling and direct recruitment through the gay community press and radio.

The questionnaire contains:

- Demographic information
- Items drawn from the Australian Study of Health and Relationships (Smith et al 2003a, 2003b; Grulich et al 2003a, 2003b 2003c), the Health In Men (HIM) (Mao et al, 2002) study and HIV Futures (Grierson et al 2002), including data on most recent sexual experience; when, with whom, length of relationship with partner (including casual/anonymous); age of partner, sexual practices and protective strategies
- Items drawn from Community Attachments, Structures and the Epidemic (CASE) (Grierson, 1998), including social network constitution, characteristics and stability
- Organized gay community engagement items drawn from a number of sources
- Additional items developed specifically for this study including sexual network characteristics and geographies of sexual episodes and relationships (when and how people meet partners, where they have sex, etc.)
- A section detailing the members of the participant's social and sexual networks and the perceived characteristics of these network members.

Sampling strategy

Vines is a study of the social and sexual networks using community attached gay men as its starting point. Given that recruitment into the study follows the social and sexual networks of these men, the final sample includes gay men, lesbians and heterosexual women. There were no heterosexual men interviewed for the study. The study achieved a sample size of 213.

Generative Network Sampling

The questionnaire collected demographic information, a sexual life history, and information on the nature and extent of the participant's social and sexual networks. Within the social networks, individuals were identified by the participants as people with whom they have either weak ties or strong ties. The participants were then invited to recruit into the study anyone from within their social and sexual networks.

Five gay men formed the starting point for the sampling. They were community attached and selected from diverse settings within the organized gay community of Melbourne.

After the recruitment of the initial five men, the research team did not directly approach any of the persons named in the social and sexual networks of people interviewed in the study. These persons were only recruited into the study by the study participants who named them. Participants were provided with reply paid postcards and information sheets to pass on to members of their networks, where possible, along with an invitation to prospective participants to either call the core project staff, or provide a first name and contact phone number on the postcard.

Supplementary Recruitment

In addition to recruitment through networks, participants were also recruited through newspaper advertisements in Melbourne Community Voice (a local gay community newspaper) and Joy Melbourne, a gay and lesbian community radio station. Participants contacted the core researchers on the project by telephone and interviews were arranged.

Eligibility

In order to participate in the study, individuals had to be at least 16 years of age and have sufficient proficiency in English to complete the interview. The primary focus of the study is the social and sexual networks of homosexually active men in Melbourne. However, given the recruitment method used in the study, a small number of women were also recruited into the study. In order to maintain the focus on the population of homosexually active men in Melbourne, only those members of women's social and sexual networks who were homosexually active men were eligible to be recruited.

Results

This section presents the characteristics of the sample of participants interviewed in the study. We describe these as *Index Participants* to distinguish them from the members of their social and sexual networks about whom we collected data but did not interview directly. A considerable number of index participants were named as members of other index participants' social networks and hence were both index participants and network members. This section will build up a picture of the participants beginning with individual characteristics and developing to include participants' relationship with media, organizations and their social and sexual networks.

Demographics of the sample

The sample consisted of 213 people, of whom 83 (39%) were recruited through generative network sampling. Of the whole sample, 97% were male and 3% were female.

Of all participants:

- 89% self identified as gay or homosexual
- 4% identified as bisexual
- 4% identified as queer
- 3% identified as 'other'
- 1% identified as heterosexual or straight

Participants ranged in age from 19 to 76, with the average age being 37 years, and the median age being 34.

Twenty one per cent of participants were born overseas:

- 8% were born in Europe
- 5% were born in New Zealand or the Pacific
- 4% were born in an Asian country
- 2% were born in the Middle East
- 2% were born in North America

Nearly all participants spoke English as their main language at home, and 2% of participants were either Aboriginal, Torres Strait Islander, or both.

Living arrangements of the sample

In terms of geographical location, 26% of participants lived in the inner south eastern suburbs (ranging from South Yarra/Prahan to Caulfield), 21% lived in the inner north (out as far as, but not including, Preston and Coburg), 11% lived in the inner east (Richmond to Hawthorn), 9% lived in inner bayside (Port Melbourne to Brighton, and including St Kilda), 9% lived in the western suburbs, 7% lived in outer bayside (Hampton to the peninsula), 6% in the outer northern suburbs, 5% in the outer south eastern suburbs, and 5% in the outer eastern suburbs.

In terms of individual suburbs, participants were most likely to live in:

- Prahran (7%)
- East St Kilda (6%)
- St Kilda (5%)
- Northcote (4%)
- South Yarra (4%)

Thirty nine per cent of participants live alone, while 61% live with others, a third of these living with their partners. Marriage (in legal terms) was a rare occurrence amongst participants, with 89% never having been legally married, and most of those who had been legally married being either separated (4%) or divorced (7%).

The overall level of education was high, with nearly half of the sample having a university degree or higher qualification. Overall:

- 17% had lower secondary, technical or trade certificate
- 23% had completed secondary school only
- 13% had a college certificate or diploma
- 29% had an undergraduate degree
- 17% had a postgraduate degree

Most participants were working, with over two thirds employed either full time (46%) or part time (23%). Of the total participants:

- 12% were unemployed
- 9% were permanently ill or unable to work
- 6% were students
- 5% were retired

Income distribution was uneven, with participants being most likely to earn between \$32,000 and \$52,000 per year, or less than \$11,000 per year. Overall:

- 22% earned under \$11,000 per year
- 17% earned between \$11,000 and \$20,000
- 13% earned between \$21,000 and \$32,000
- 30% earned between \$32,000 and \$52,000
- 18% earned over \$52,000 per year

Media consumption

Newspapers

Newspaper readership was high amongst the sample, with over two thirds of participants reading *The Age* and over half reading the *Herald Sun* at least once a week. Readership of the gay press was also high, with 81% of participants reading some form of gay press at least once a week. It should be noted that much of the supplementary recruitment for *Vines* was done through advertisements placed in MCV, one of the three regular gay community papers in Melbourne.

Table one – Frequency of newspaper readership (%)

	Not at all	Once a month	Once a week	More than once a week	Every day
The Age	18	13	23	24	22
The Herald Sun	31	11	20	22	16
The Australian	71	10	11	5	3
The Financial Review	82	10	5	1	2
The gay press	3	17	69	12	0

Television

Participants were most likely to watch the ABC (90% at least once a week), although levels of television consumption were fairly even across all stations, with the exception of Channel 31, which had a much lower rate of usage, possibly due to it broadcasting in a limited area with a weaker signal.

Table two – Frequency of television viewing (%)

	Not at all	Once a month	Once a week	More than once a week	Every day
Channel Seven	10	8	29	34	19
Channel Nine	8	7	24	41	20
Channel Ten	7	6	20	40	28
ABC TV	5	5	21	42	27
SBS TV	10	11	25	31	23
Channel 31	53	17	17	10	3

Radio

A clear majority of participants listened to Joy Melbourne at least once a week, although supplementary recruitment for *Vines* was carried out through advertising on Joy, so this may have affected the result. Apart from Joy, NOVA was the most popular radio station. Nearly one respondent in five listens to ABC Classic FM at least once a week, and one in ten listens to either 3AW or Radio National at least once a week.

Table three – Frequency of radio listening (%)

	Not at all	Once a month	Once a week	More than once a week	Every day
Joy Melbourne	39	6	14	20	21
NOVA	61	1	6	12	20
Fox	68	2	6	8	17
Triple J	76	4	6	5	9
ABC Classic FM	81	1	3	7	8
MIX	82	1	3	5	9
ABC 774	83	1	2	4	11
Triple R	84	2	3	4	7
3AW	89	1	1	2	6
Radio National	89	1	1	4	5

Affiliations

Over two thirds of participants were members of some sort of formal organisation, either specifically gay or lesbian, or part of the general community. Participants who joined organisations were highly likely to join more than one, with 44% of all participants being members of two or more organisations.

The types of organisations people were most likely to join were:

- HIV/AIDS related groups (17%)
- Volunteer organisations, including Joy Melbourne (17%)
- Corporate networking groups, including Globe (8%)
- Gay male only social groups, including Young Bucks (8%)
- Non-gay political organisations (7%)

Sexual identity & disclosure of sexual identity

As noted earlier, most participants identified themselves as gay or homosexual (89%).

The other responses given included:

- Queer (4%)
- Bisexual (4%)
- Heterosexual/straight (1%)
- Other (2%)

Interestingly, of those men who identified as gay or homosexual, over half have had sex at least once with a woman (54%), and just under half said they had felt sexually attracted mostly to males but at least once to females (46%).

For the men in the study who identified as gay, the average age for first same sex sexual encounter was 17 years (median 16 years), the average age for first telling someone else

that they were gay was 20 years (median 19 years) and the average age for first attending a gay venue or group was 21 years (median 19).

Disclosure of sexual identity: gay identified men only

Nearly all participants who identified as gay or homosexual had disclosed their sexual identity to their close friends, and most had disclosed to other friends. Disclosure to work colleagues was also high at 86%.

Table four – Disclosure of sexual identity (%)

	Yes	No	Not applicable
Parents	80	18	3
Siblings	79	15	6
Children	5	4	90
Other family	67	32	1
Work colleagues	86	10	4
Close friends	98	2	0
Other friends	89	10	1
Indigenous/ethnic community	7	9	83
Neighbours	41	58	1

Gay Community: Perceptions of commonality and identity

Participants were asked a series of questions to ascertain the degree to which they thought of gay men, straight men, lesbians, straight women, and bisexual men and women as homogenous groups and how similar they thought gay men were to other sexuality/gender categories. A detailed analysis of these data will be presented in a forthcoming issues paper. Here we present the findings on homogeneity of groups. For each group, participants were asked, “Generally how much do you think x have in common with each other?”

Table five – Perceived homogeneity of social groups (%)

	Amount in Common with each other					
	Nothing at all	A little bit	Quite a bit	Nearly everything	Every thing	Don't know
Gay men	1	23	55	15	6	2
Straight men	2	26	51	16	5	1
Lesbians	1	18	51	17	9	5
Straight women	1	21	45	23	9	1
Bisexual men	4	45	31	8	3	10
Bisexual women	3	37	34	9	3	14

Interestingly, bisexuals are seen as the most heterogeneous groups (i.e. the members have less in common) while straight women are seen as the most homogenous group (i.e. they have more in common with each other) followed by lesbians. Gay men and straight men sit in between, with most participants believing they have “quite a bit” in common. This

has relevance for educational practice that is premised on a strong identification with other gay men.

Also relevant to educational practice is the centrality of gay identity to individual's self-concept. When asked how important their own sexuality was to their self-identity, gay male participants were most likely to say important (44%) or essential (34%). However, one in five gay male participants felt that their sexuality was either not important or irrelevant.

Other aspects of self that were important to participants included:

- Personality (10%)
- Caring/compassionate/loyalty/honesty (9%)
- Sense of humour (6%)

Sexual history and selection of sexual partners

Sexual history – number of partners

Index participants were asked how many anal sex partners they had had, how many additional partners they had had oral sex with but not anal sex, and the number of further additional partners they had where they engaged in masturbation but neither oral sex nor anal intercourse. Across all categories of sexual practice, participants were most likely to have had either 11 to 50 sexual partners or over 50 sexual partners over the course of their lives to date.

Approximately 60% of men had had more than 10 anal sex partners in their lifetime. About three quarters had more than 10 additional partners with whom they had oral sex but not anal sex, and about half engaged in masturbation with more than 10 men with whom they had neither oral nor anal sex.

Table six – Total number of partners by sexual practice (%)

Number of partners	Lifetime no. of anal sex partners	Lifetime no. of additional partners for oral but not anal sex	Lifetime no. of additional partners for masturbation but not anal or oral sex
None	1	4	20
1 to 5	15	5	8
6 to 10	19	8	17
11 to 50	31	34	26
Over 50	32	45	26

Over the last 12 months, participants were most likely to have had one to five partners for anal sex (50%), one to five additional partners for oral sex (32%) but no additional partners exclusively for masturbation (43%), and.

Table seven –Number of partners in last 12 months by sexual practice (%)

Number of partners	Lifetime no. of anal sex partners	Lifetime no. of additional partners for oral but not anal sex	Lifetime no. of additional partners for masturbation but not anal or oral sex
None	15	16	43
1 to 5	50	32	19
6 to 10	10	12	15
11 to 40	14	21	15
Over 40	8	15	6

Those with a higher number of sex partners in their lifetime and last 12 months were more likely to choose their sex partners on the basis of their partner's willingness to either have sex in particular places or to engage in particular sex acts. Selecting partners on the basis of some physical characteristic of the person was common, regardless of the number of sexual partners in the last 12 months.

Of those participants who lived with a partner, 21% had six or more partners for anal sex in the last 12 months (versus 32% for all participants in the same period), 49% had six or more additional partners for oral sex in the last 12 months (versus 48% for all participants)

Selection of sexual partners

Of all gay male participants, 87% had chosen sexual partners on the basis of some physical characteristic of the person. Of those who chose partners on the basis of physical characteristics, the three most popular characteristics nominated by participants were:

- Personality/confidence/sense of humour (60%)
- Body shape/physique (32%)
- Ethnicity (25%)

Gay male participants were less likely to choose sexual partners on the basis of their willingness to engage in particular sexual practices, with only a third stating that they have done so, but for those who did, the three most popular practices nominated were:

- Anal/fucking (28%)
- Oral (23%)
- Kissing (14%)

The partners' willingness to have sex in particular places appears to have a stronger influence over partner choice, with 45% of index participants choosing partners on this basis. The three most popular places nominated were:

- Home (35%)
- Saunas/SOPV (29%)
- Beats/public places (24%)

Sexually Transmissible Infections

A majority of participants have had an STI at some stage in the past, with these mostly occurring more than 12 months ago. Participants were least likely to have ever contracted hepatitis C (2%) or syphilis (3%).

The STIs occurring with the highest lifetime prevalence amongst participants were:

- Pubic lice/crabs (69%)
- Gonorrhoea (30%)
- Non Specific urethritis (23%)
- Genital warts (20%)

Table eight – Participants who have had an STI (%)

Sexually Transmissible Infection	Ever	Within last 12 months
Pubic lice/crabs	69	16
Gonorrhoea	30	6
Non Specific Urethritis (NSU)	23	2
Genital warts	20	6
Candida or thrush	15	7
Hepatitis A	12	0
Chlamydia	10	5
Genital herpes	8	2
Hepatitis B	6	0
Syphilis	3	0
Hepatitis C	2	1

Knowledge and risk assessment

There was almost universal agreement amongst participants that prevention is still the best practice for managing HIV/AIDS, and responses to other questions in a similar vein indicate that the advent of combination antiretroviral therapy for HIV infection has not resulted in people taking the threat of HIV/AIDS any less seriously.

Lack of awareness of post exposure prophylaxis led to a rate of 'don't know' responses that was considerably higher than for other questions.

Interestingly, the statement 'it's never safe to fuck without a condom, regardless of viral load' provoked a degree of dissent, with nearly a quarter of participants disagreeing with the statement.

It should be noted that the concept of 'viral load' had to be explained to many participants during the interview, as this appears to be specialist knowledge limited to those most affected by HIV and AIDS.

Table nine – Response to statements about HIV and risk (%)

	Agree	Disagree	Don't know/ refused
A person with undetectable viral load cannot pass on HIV	5	86	9
If every HIV + person took the new treatments the AIDS epidemic would be over	3	95	2
Until there is a complete cure for HIV/AIDS prevention is still the best practice	97	3	0
New HIV treatments will take the worry out of sex	9	88	3
People with undetectable viral load do not need to worry so much about infecting others with HIV	8	88	4
The availability of PEP immediately after unsafe sex makes safe sex less important	4	81	15
It's never safe to fuck without a condom, regardless of viral load	77	23	0
Because of new treatments fewer people are becoming infected with HIV	8	83	9
HIV/AIDS is a less serious threat than it used to be because of new treatments	21	75	4

Blood Born Viruses and risk

Of all participants, 89% have had an antibody test for HIV at some stage, and 15% were HIV positive.

Of those who have had an antibody test and were HIV negative:

- 44% have had their most recent test during 2002
- 28% had tested during 2001
- 12% had tested during 2000
- 16% had tested some time prior to 2000

Seventeen per cent of participants had injected drugs at least once, with 8% having done so within the last 12 months. Four per cent of all participants had shared a needle at some stage in the past, with this being most likely to occur between one and five years ago (3%), and least likely to happen within the last 12 months (1%).

Vaccination rates for hepatitis were high, with 55% of participants being vaccinated for hepatitis A and 68% being vaccinated for hepatitis B. When combined with the rates of previous infection with these two viruses (Table eight), total sample immunity from hepatitis A increases to 67%, and hepatitis B immunity increases to 74%.

Social networks and milieu

Participants in *Vines* were asked about their close and broad social networks. Participants were asked firstly to list the people who they were closest to, the people that they see or talk to regularly and share their personal thoughts and feelings with. This was then defined as their close networks. Participants were then asked to list other people in their lives that they seek out and spend time with on a regular basis, but who are not very close to them. These people were then defined as their broader network.

Vines participants had an average of six close friends (median = 5) and sixteen broader friends (median = 10), who were most likely to be around the same age as the participant (60%). In the two weeks prior to the interview being conducted, participants had been out for social purposes an average of 5 times (mean = 4.5, median = 4).

Thirty nine per cent of index participants had been out for sexual purposes during the same period, and of these, 37% had been out once, 18% had been out twice, and 16% had been out five times.

Close friendship networks

Of the smaller, close network of friends, participants were most likely to describe their networks as:

- more men than women friends (34%) or equal men and women friends (27%)
- most likely to have close friends who were mostly gay (31%) or only gay (23%)
- most likely to have friends who were HIV negative only (62%)

Of the members of their close friendship networks actually enumerated in the study (N=1309):

- 66% were male
- 52% were gay and 37% were straight
- the average age was 30 to 34 years
- they had known them for an average of nine years (mean = 8.7, median = 5)
- 37% smoked tobacco

In over a quarter of instances people have had sex with their friends in the past (26%), but only 13% believed that this would happen again in the future.

More than half (51%) of the participants saw their friends on a weekly basis, while nearly a third (28%) saw their friends on a monthly basis.

Although a vast majority (85%) would discuss their sex lives with their friends, a considerably smaller proportion (35%) had discussed an episode of unprotected sex. A further 32% said that they had not discussed an episode of unprotected sex with their friends, but they felt that they could.

Broader friendship networks

Of the larger network of friends who were not so close, participants were most likely to describe their networks as:

- more men than women friends (43%) or equal men and women friends (30%)
- most likely to have close friends who were mostly gay (35%) or mostly straight but some gay (30%)
- most likely to have friends who were HIV negative only (44%)

Of the members of their broader friendship networks actually enumerated in the study (N=1662):

- 66% were male
- 48% were gay and 42% were straight
- 40% smoked tobacco
- the average age was 30 to 34 years
- they had known them for an average of seven years (mean = 7.3, median = 4)

In contrast to the close networks 17% of people have had sex with their friends in the past, and 16% thought that this was likely to happen again in the future.

Participants were most likely to spend time with people from their broader circle of friends on a monthly basis (41%).

Although a majority (60%) would discuss their sex lives with their more distant friends, this was considerably less than the proportion who would discuss their sex lives with their close friends. A considerably smaller proportion (17%) had discussed an episode of unprotected sex, while a further 30% said that they had not discussed an episode of unprotected sex with their friends, but they felt that they could.

Sexual partners

Of the sexual partners actually enumerated in the study (N=747):

- 99% were male
- 87% were identified as gay
- 43% smoked tobacco
- the average age was 30-34
- they were most likely to have know them for less than a year (63%)

Participant's last sexual partner was most likely to be a casual partner (55%) or an occasional partner (27%) that they had met in Melbourne (83%). They were most likely to have met that partner at a SOPV (23%), a pub or a club (18%) or a beat (17%), and to have known them for less than 24 hours before having sex with them (68%). The places where they were most likely to have sex were their own home (34%), their partner's home (24%) or at a SOPV (21%).

Forty one per cent of participants made some attempt to evaluate their partner's HIV status, either through their partner telling them (40%), or them asking their partner (22%).

The conclusions they were most likely to reach about the HIV status of their partner were:

- HIV negative (80%)
- HIV positive (17%)
- unsure (3%)

Participants reported details of 735 different same sex sexual events, each event consisting of one or more sexual acts. Of these sexual events 44% involved anal intercourse, with:

- 32% involving protected anal intercourse,
- 8.5% involving unprotected anal intercourse with a partner known to be of the same serostatus
- 3.5% involving unprotected anal intercourse with a partner of different or unknown serostatus

Sexual events involving unprotected anal intercourse with a person of different or unknown HIV serostatus were most likely to occur with partners met at a sauna or sex on premises venue (1%), or with partners known for more than 12 months (1%)

Table ten – Condom usage by where partner met (%)

Where met	Condom usage			
	No anal	UAI – sero-concordant	UAI – sero-discordant or unknown	Protected anal
Known more than 12 months	54	23	8	15
Pub/club	53	8	4	36
Beat	82	2	2	13
Sauna/SOPV	42	8	5	45
Internet	62	5	1	23
Social event/friends	51	11	4	35
Through work	48	9	4	39
Brothel/street sex worker	0	0	0	100
Chatline/newspaper ad	53	7	7	33

Sexual events involving unprotected anal intercourse with a person of different or unknown HIV serostatus were most likely to actually take place within the home of one of the two partners (2%).

Table eleven – Condom usage by location of sexual event (%)

Where met	Condom usage			
	No anal	UAI – sero-concordant	UAI – sero-discordant or unknown	Protected anal
Beat	91	0	3	6
Sauna/SOPV	45	6	5	45
Your place	55	10	4	30
Their place	44	12	3	41
Other	67	11	4	19

Network size

Participants in *Vines* were allocated into one of six groups based on the size of their close and broader social networks as a preliminary method for examining the impact of structural characteristics of social networks.

The tables in this section present the six groups split at the first level by the size of the broad network (small/large) and then at the second level by the size of the close network (small/medium/large)

The proportions within each grouping are:

- 18% broader group *small* and close group *small*
- 17% broader group *small* and close group *medium*
- 9% broader group *small* and close group *large*
- 8% broader group *large* and close group *small*
- 27% broader group *large* and close group *medium*
- 22% broader group *large* and close group *large*

There was very little variation in the mean and median age between groups, implying that age is not a factor that is associated with the size of social networks.

Level of education, in comparison, did appear to differ between the different groups. Participants with lower levels of education were more likely to have a small number of people in their close networks, while people with higher levels of education were more likely to have large numbers of people in both their close and broader networks. This was particularly pronounced for those with a postgraduate education, who made up a quarter each of those in the broad-large/close-medium and broad-large/close-large groupings.

Table twelve – network size by education level (%)

Education level	Broad group small			Broad group large		
	Small	Medium	Large	Small	Medium	Large
Lower secondary school	18	11	0	18	11	0
Technical or trade certificate	5	6	19	12	7	7
HSC/VCE/Leaving	26	17	14	29	24	24
College cert or diploma	15	20	10	6	11	13
Undergraduate degree	23	31	48	29	24	31
Postgraduate degree	13	14	10	6	24	24

A similar trend is evident with levels of income, where it appears that the higher the annual income, the greater the chance of participants belonging to larger social networks, and the lower their income, the greater the chance of them belonging to smaller social

networks. This is particularly noticeable amongst those in the broad-large/close-large, amongst whom almost a third are in the highest income bracket of over \$52,000 per year.

Table thirteen – network size by annual income (%)

Annual income	Broad group small			Broad group large		
	Small	Medium	Large	Small	Medium	Large
Under \$11,000	28	23	33	29	16	11
\$11,000-\$20,000	21	17	19	6	18	16
\$20,001-\$32,000	15	17	5	18	15	9
\$32,001-\$52,000	26	31	24	29	33	33
Over \$52,000	10	11	19	18	18	31

The same pattern was also evident when employment status was examined across the six groupings, with those in full time employment having larger broad and close networks.

Table fourteen – network size by employment status (%)

Employment	Broad group small			Broad group large		
	Small	Medium	Large	Small	Medium	Large
Full time	39	31	43	41	56	53
Part time	21	23	19	18	20	33
No paid work	25	35	28	41	15	12
Permanently ill	15	11	10	0	9	2

Those with small networks were more likely to be in a relationship than those with larger networks, with 31% of those with broad-small/close-small networks reporting living with a partner, compared to 20% of those with broad-large/close-large networks.

There appears to be a relationship between HIV serostatus and the size of participants broader group, with those whose broader group is small being more likely to be HIV positive. There also appeared to be a similar but less pronounced relationship between the size of the close group and HIV serostatus, with the broad-small/close-small group having the highest proportion of HIV positive respondents (21%), and the broad-large/close-large group having the lowest (9%).

While all groups contained people who had injected non-prescribed drugs at some stage during their lives, this mostly took place more than 12 months ago. The exceptions to this were the broad-small/close-medium group, where 23% had ever injected; 20% had done so within the last 12 months, and 3% had done so longer than 12 months ago. A similar, but less pronounced pattern was observable with the broad-small/close-small group, where 13% out of 23% who had ever injected had injected within the last 12 months. This is in contrast with the broad-large/close-large group, where only 9% had ever injected, and only 2% had injected within the last 12 months.

There was an association between network size and the number of times participants had gone out for social purposes in the two weeks preceding their interview, with those from the broad-small/close-small group being least likely to go out at all (21%), while those from the broad-large/close-large group being most likely to go out seven or more times (31%).

Table fifteen – network size by no. times out for social purposes (%)

Number of times out for social purposes	Broad group small			Broad group large		
	Small	Medium	Large	Small	Medium	Large
None	21	3	5	0	6	4
One	13	14	0	24	4	7
Two	21	26	5	0	15	4
Three	23	14	5	29	16	7
Four	10	9	19	12	22	18
Five	3	14	0	6	4	11
Six	3	9	39	12	13	18
Seven or more	8	11	29	18	22	31

There was also an association between the number of times participants had been out for sexual purposes in the two weeks prior to interview, and the size of their social networks, although this relationship was less pronounced and ran in the opposite direction to that between network size and number of times out for social purposes. When it came to times out for sexual purposes, participants were more likely to go out if their networks were small, and less likely if their networks were large, although those with large networks who did go out for sexual purposes were most likely to go out four or more times.

Table sixteen – network size by no. times out for sexual purposes (%)

Number of times out for sexual purposes	Broad group small			Broad group large		
	Small	Medium	Large	Small	Medium	Large
None	54	69	52	77	58	64
One	21	17	29	0	11	9
Two	10	9	10	0	7	4
Three	5	6	0	0	4	2
Four or more	10	0	10	24	20	20

The size of the social networks was unrelated to either patterns of media consumption or number of institutional affiliations.

Age cohorts

Both age *per se* and the individuals' historical experience of the HIV/AIDS epidemic are likely to colour their relationship to social networks and gay community. These analyses are based in part on the CASE study (Grierson, 1998) that demonstrated a complex iterative relationship between AIDS epidemic-related generation and experience of gay community. In order to examine the generational differences in the sample, we have divided participants into four groups. The groups are constructed around the arrival of the epidemic in Australia, and the year in which participants turned nineteen (the median age for identification as gay). The two middle age cohorts, each ten years long, sit either side of the social (not epidemiological) arrival of AIDS in Australia in 1981. The remaining groups are younger and older participants than these. Thus the 50 plus cohort can be considered to be those that were well established in gay identity before the epidemic. The 40 to 49 year old cohort had identified as being gay in the ten years prior to the epidemic, the 30-39 year old cohort reached 19 years old in the 10 years after the arrival of AIDS. The 29 and under group is very much the post-AIDS, post-ARV generation who grew up with HIV/AIDS as part of the Australian landscape.

Age appeared to be related to a number of demographic characteristics of participants.

Those in the 18 to 29 cohort were:

- less likely to have postgraduate qualifications (7%)
- more likely to be students (10%)
- less likely to earn over \$52,000 per year (10%)

Those in the 30 to 39 cohort were:

- more likely to have a tertiary qualification (53%)
- more likely to be employed full time (47%)
- most likely to be earning between \$32,000 and \$52,000 per year (35%)

Those in the 40 to 49 cohort were:

- most likely to just have an undergraduate uni degree (as opposed to a postgraduate degree) (36%)
- most likely to be employed full time (64%)
- most likely to earn over \$52,000 per year (30%)

Those in the 50 plus cohort were:

- likely to have a tertiary qualification of some sort (51%)
- least likely to be employed full time (32%)
- most likely to earn less than \$11,000 per year (28%)

There was a reasonably even distribution of HIV positive participants across the age cohorts, with the exception of those aged 18 to 29, where the proportion of HIV positive participants was considerably lower, and the proportion of participants who had not taken an HIV test was considerably higher.

Table seventeen – HIV status (%)

	18 - 29	30 - 39	40 - 49	50+
HIV +	7	20	18	16
HIV -	69	71	76	78
Don't know	24	9	6	6

Nearly one in five participants across all age cohorts had ever injected non-prescribed drugs, with the exception of the over 50 cohort, where only one in twenty had ever injected.

The younger participants are, the more likely they are to live with others, with more than four out of five participants in the 18 to 29 cohort living with someone else, while just over one in five of the 50 plus cohort live in similar circumstances. Those in the oldest cohort were also least likely to live with a partner (11%), while those in the 30 to 39 cohort were most likely to live with a partner (28%).

Table eighteen – Live with someone else (%)

	18 - 29	30 - 39	40 - 49	50+
Yes	85	64	42	27
No	15	36	58	73

When asked how important their sexuality was to their self-concept, all of the 30 plus cohorts were likely to answer that their sexuality was important or essential. The importance placed on sexuality was noticeably lower for the 18 to 29 cohort, who were most likely to respond that their sexuality was important (48%) or not important (27%) to their self-concept.

Table nineteen – How important is your sexuality to who you are? (%)

	18 - 29	30 - 39	40 - 49	50+
Irrelevant	6	4	3	5
Not important	27	14	12	8
Important	48	41	46	43
Essential	19	41	39	43

The age cohort was unrelated to total media consumption. However, men in the older cohorts were likely to have more institutional affiliations than men in the younger cohorts.

Network density

Network density reflects the number of social connections within a network in relation to the maximum possible number of such connections (i.e. as would occur when all network members know all other network members. Density=1.00). Network density is important because it provides an insight into the extent to which networks are fragmented and hence able to support a diversity of norms and practices. The mean network density was 0.39 and the median was 0.37.

Network density was examined in relation a number of factors including demographics, gender and sexuality, Blood Born Virus risk factors, knowledge and risk assessment, group affiliations, media usage, sexual history and sexually transmissible infection history,

and was found to be remarkably consistent across all of these variables, with only a few differences being evident. One example that serves to illustrate this consistency is the comparison of the mean network density of HIV positive and HIV negative participants, with HIV positive participants having a mean network density of 0.39, and HIV negative participants having a mean density of 0.38.

Network density was related to the number of sexual partners a participant had. Men in denser networks had lower numbers of sexual partners and as network density declined the number of sexual partners increased.

There also appeared to be a relationship between mean density and the number of times participants went out for sexual purposes in the two weeks prior to interview. Those who had not been out for sexual purposes had a mean network density of 0.42, with density gradually falling as participants went out one, two or three times for sexual purposes, reaching a low of 0.26 amongst those who had been out three times for sexual purposes. Network density then increased by a considerable margin for those who had been out four or more times for sexual purposes, with those who had been out four or more times for sexual purposes having a network density of 0.38.

Table twenty –mean network density by times out for sex

Times out for sex	n	Mean density
None	131	0.42
Once	30	0.36
Twice	15	0.29
Three times	7	0.26
Four or more times	30	0.39

Network density was unrelated to total media consumption and the number of institutional affiliations.

Analysis of the enumerated social and sexual networks

Participants were asked for details about the nature of their relationships with up to ten of the people they had named in their close and broad networks. This resulted in data being collected about the nature of 1,808 relationships. Participants were asked if they had discussed or could discuss their sex lives, in particular an episode of unprotected sex. The range of responses included ‘yes’, ‘no, but I could’, ‘no, and I would not’ and ‘I have not had unprotected sex’.

Participants were equally likely to feel that they could discuss an episode of unprotected sex with friends regardless of the friends’ gender, but they were more likely to have actually discussed an episode of unprotected sex with men than with women (30% versus 20%).

Sexual identity also appeared to play a role, with discussion of unprotected sex more likely to have taken place with friends who were identified as gay or lesbian (32%), and less likely to have taken place with friends whom they identified as heterosexual (17%).

Participants were also most likely to talk about unprotected sex with friends aged between 20 and 44 (29%), and less likely to discuss this with friends aged 45 and over (17%).

In terms of relationships, participants were most likely to discuss an episode of unprotected sex with:

- a partner that they live with (77%)
- a partner that they don't live with (63%)
- a friend (25%)
- an acquaintance (11%)

They were also more likely to discuss unprotected sex with people they have had sex with in the past (54% versus 19%), and people they feel they are likely to have sex with in the future (57% versus 22%).

Willingness to discuss unprotected sex with friends appeared to increase with the number of years they have known each other, although this was not a strong trend, perhaps being confounded by the apparent reluctance to talk about sex with older friends.

Likelihood of discussing unprotected sex increased with the amount of time spent together, with:

- those who spend time together every day being most likely (43%)
- those who spend time together every week being less likely (28%)
- those who spend time together every month being least likely (22%)

Interestingly, nearly 41% of all relationships were with smokers, and participants were more likely to discuss unprotected sex with these friends who smoke tobacco (32% versus 23%).

Age cohort

A clear majority (89%) of relationships of those aged 18 to 49 either had or felt that they could discuss an episode of unprotected sex with their friends. Those aged over 55 were less likely to discuss an episode of unprotected sex within their relationships, although a majority (66%) still had.

Network size

The likelihood of discussing an episode of unprotected sex was fairly consistent across all network groupings, with the exception of those who had both small close and broad networks, who were less likely to discuss an episode of unprotected sex than the average of all groupings (65% versus 72%).

Network density

The mean network densities were compared across both willingness to discuss unprotected sex and willingness to discuss sex in general, and the same pattern was apparent in both instances, with the denser the network, the less likely people were to discuss either unprotected sex or sex in general.

Future Projects

Three action research projects will be developed by a collaborative team of *Vines* researchers and the Community Education Program from the VAC/GMHC. Each of these will take as its starting point one of the detailed issues papers. These action research projects have been funded by the Department of Human Services, State Government of Victoria. Evaluation reports on these projects will be made available upon their completion.

Three action research projects will be located in three types of context as identified by *Vines*.

- Context 1 – The relational context. Here we will explore the ways in which gay men’s social and sexual relationships support or constrain safe sex practices.
- Context 2 – The affiliational or cultural context. This project will examine the ways in which gay men’s involvement in, and attachment to, institutions is instrumental in the maintenance of a sense of self.
- Context 3 – The environmental context. This final project will document the ways in which the site at which men meet and the sites at which men have sex shape the possibilities for safe and unsafe sex.

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