

Conflicting Advice? Australian Adolescents' Use of Condoms or the Pill

By Jo Lindsay, Anthony M.A. Smith and Doreen A. Rosenthal

Context: Teenagers are exposed to two potentially conflicting sexual health messages, one emphasizing the prevention of sexually transmitted diseases (STDs) and the other stressing pregnancy prevention. To protect teenagers from both STDs and unwanted pregnancy, it is important to know what method choices they make and why.

Methods: Data from a 1997 national survey of 3,550 Australian secondary school students were used to examine teenagers' method choice and patterns of advice-seeking about contraception and STD prevention. Logistic regression analyses were conducted to identify factors associated with the exclusive use of condoms or the pill.

Results: Virtually all 961 currently sexually active students were using at least one contraceptive method—primarily condoms (78%) or the pill (45%). Some 31% were using condoms exclusively, and 10% were using the pill exclusively. Older students and those who had sought contraceptive advice had elevated odds of using the pill rather than condoms exclusively (odds ratios, 4.4 and 2.6, respectively), while those who had had only casual partners in the last year had a reduced likelihood of exclusive pill rather than condom use (0.1). Furthermore, the more students believed that their peers used condoms, the less likely they were to report exclusive pill use (0.4). Parents were the most frequent source of advice about contraception, followed by physicians and teachers. The most common sources of advice about HIV and other STDs were parents, teachers and then physicians.

Conclusions: Young people must be educated about the distinction between safer sex and contraception, and about how to prevent both STDs and pregnancy. Providing parents with current sexual health information may help to improve young people's sexual health.

Family Planning Perspectives, 1999, 31(4):190–194

Protecting young people from both sexually transmitted diseases (STDs) and unwanted pregnancy are important public health goals. In Australia, STD surveillance data indicate that in 1996, 13–19-year-olds accounted for 20% of gonorrhoea infections, 15% of acute hepatitis B infections, 14% of syphilis infections and 23% of chlamydia infections.¹ Only limited data are available on STDs that do not have to be reported to the government; however, in 1995, 13–24-year-olds represented 18% of those with genital herpes, 33% of those with genital warts and 18% of those with nonspecific urethritis diagnosed at one sexual health clinic.² The picture with regard to HIV and AIDS is different. Teenagers make up fewer than 1% of all Australians with AIDS and only 2% of those infected with HIV.³ However, since many adults with AIDS became infected as teenagers,⁴ adolescent sexual behavior is important.

Although teenage childbearing in Australia is low in comparison with the U.S. level, it remains a concern.⁵ Teenagers contributed 5% of births in 1997.⁶ Abortion data for teenagers are a reminder of the

consequences of unprotected intercourse or contraceptive failure: It is estimated that among Australian teenagers, one abortion occurs for every teenage birth,⁷ and that the number of teenagers having abortions each year has more than doubled since 1971.⁸

Young people in Australia are exposed to two potentially conflicting discourses regarding sexual health: one focusing on safer sex and the other on pregnancy prevention. The safer-sex discourse was developed by the gay community in response to the HIV pandemic;⁹ a modified version has been extensively incorporated into sexual health programs in Australian schools.¹⁰ It emphasizes the use of condoms for protection against HIV and other STDs. In contrast, the pregnancy prevention discourse has a much longer history and is tied to women's struggles to separate sex from reproduction and government policies on population planning.¹¹ The emphasis here is on the provision of effective contraception. Many medical practitioners and family planning experts recommend the pill because of its low failure rate.¹²

Although these discourses have distinct

histories and differing aims, teenagers tend to confuse their messages. When safer sex is being practiced and bodily fluids are not exchanged, contraception occurs by default. However, the converse does not hold. While condoms offer considerable protection from STDs, other contraceptive methods provide no protection. Yet, some in-depth Australian research has found that teenagers believe that by using the pill, they are practicing safer sex.¹³

If we are to protect teenagers from both unwanted pregnancy and STDs, it is important to know what contraceptive methods they choose and why. We know, for example, that young people's condom use has been slowly increasing over the last decade or so in Australia and the United States.¹⁴ The youngest teenagers,¹⁵ adolescents who believe that their peers use condoms and those who have positive attitudes toward condoms are more likely than others to report using condoms.¹⁶ Moreover, young men are more likely than young women to have positive attitudes toward condoms and to report using condoms.¹⁷

We also have some insight into adolescents' pill use. In a number of studies, teenagers have cited pill use as a reason for not using condoms.¹⁸ Other research has established that older adolescents,¹⁹ young women who have sex frequently or are in steady relationships,²⁰ and those who discuss sexual issues with their parents or feel that their parents accept their sexual relationship²¹ are more likely to use the pill than are other sexually active teenagers. Young women are more likely to report using the pill than young men are to say that their partners use this method,²² and young women with highly educated mothers are more likely to use the contraceptive pill than condoms.²³

However, while we know that the pill and condoms are the most commonly

Jo Lindsay is research fellow, Anthony M.A. Smith is senior research fellow and Doreen A. Rosenthal is director—all at the Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne. The research on which this article is based was funded by the Commonwealth Department of Health and Family Services. The authors thank Lyn Turney, Maggie Kirkman and Louise Keogh for their comments on early drafts.

used methods among sexually active adolescents,²⁴ little research has investigated the factors that predict the choice of one over the other.²⁵ Thus, the major focus of this article is on the choice young people make between the two. Our study is the first to use nationally representative data to document method choice among young people in Australia.

Furthermore, for the purposes of health promotion and the targeting of health information, it is important to know whether and where young people seek advice about contraception and, more broadly, sexual health. Previous research has found that while teenagers see health professionals as highly credible sources of information, they consult them infrequently. By contrast, they also perceive teachers and school-based health educators as highly credible, and they frequently seek information from them. Teenagers look to parents less often than school-based resources and the mass media as sources of advice, and their reliance on parents declines as they age.²⁶ Our data permit us to explore Australian teenagers' advice-seeking behavior.

Methods

Survey and Sample

We surveyed a random sample of 10th- and 12th-year students in schools throughout Australia in 1997. On average, Year 10 students were 15 years of age at the time of the survey, and Year 12 students were 17 years of age.

A two-stage sampling method was used to select a representative random sample on the basis of school population data.²⁷ In the first stage, schools were randomly selected, with a probability proportional to the size of the target population. The smaller states and territories were oversampled to improve the precision of results. If a selected school was unable to participate, the geographically closest school was chosen as a replacement. In all, 118 schools participated.

In the second stage, one class was randomly selected at each year level in each school that participated; an additional class was randomly selected if the original class had fewer than 20 students. A total of 3,550 students (68% of those selected) participated: 815 Year 10 and 755 Year 12 males, and 969 Year 10 and 1,011 Year 12 females. A more detailed description of the sampling procedure is available elsewhere.²⁸

In this article, we report on current contraceptive use for the 961 students who were currently sexually active. Students

were defined as being currently sexually active if they answered the question on current contraceptive use by checking any response other than "no current partner." However, the data on past contraceptive use include students who had no partner at the time of the survey (for a total of 1,159).

Variables and Analyses

The survey sought demographic information and contained questions about knowledge of HIV, AIDS and other STDs; perceptions of STD risk; attitudes toward people living with HIV; peer norms; and confidence in communication about sex. It also included questions about sexual experience, contraceptive use, and alcohol and drug use.

The questions on contraceptive use were closed-ended. Students were asked which forms of contraception they or their partners were currently using; the options provided were the pill, the IUD, the diaphragm, "the morning-after pill," withdrawal, rhythm, condoms, none, other and "no current partner." Respondents could check as many options as applied.

Students were also asked which methods they or their partners had used in the past. Response options were the same as for the question on current use, except that "no current partner" was omitted.

We measured respondents' perception of their peers' condom use with the question "Do you think that people the same age as you mostly use condoms if they have sex?" Possible responses were "none use condoms," "a few do," "about half do," "most of them do" and "all of them do."

Two questions asked students how many casual partners and how many steady partners they had had sex with in the last 12 months.* We combined these responses into one variable, type of partner in the last 12 months, which was coded "casual partners only," "steady partners only" and "both casual and steady partners."

The survey asked respondents whether they had ever sought advice about contraception and STDs. Respondents who had sought advice were asked which of the following sources they had used: local doctor or general practitioner, specialist or gynecologist, chemist (i.e., pharmacist), community health service, family planning clinic, sexual health clinic, teacher, school health professional or counselor, parent or other. For the initial regression analyses, we coded these variables "never sought advice" or "did seek advice"; subsequent analyses included each possible source of advice.

Table 1. Percentage of secondary school students reporting current or past contraceptive use, by method, Australia, 1997

Method	Current use (N=961)	Past use (N=1,159)
Condom	78.0	86.6
Pill	44.7	42.5
"Morning-after pill"	5.2	11.6
Diaphragm	1.9	2.1
IUD	0.3	0.2
Withdrawal	13.5	20.3
Rhythm	2.1	3.4
Other	0.9	1.0
None	5.2	6.4

Note: Students could select more than one method.

Responses were weighted in all analyses to correct for oversampling and for differential response rates across states, territories and schools.²⁹ All statistical analyses were undertaken using logistic regression that took into account the stratification and clustering of the data.³⁰ Our descriptive statistics outline the general patterns of sexual activity and method use, and the results of logistic regression analyses examine factors that predict exclusive use of the pill rather than exclusive use of condoms.

Results

Sexual Activity and Method Use

Most survey participants had engaged in some kind of sexual activity, although the extent of sexual experience varied by both year level and gender. As expected, 12th-year students were more experienced than 10th-year students. For example, 88% of all Year 12 students and 77% of all Year 10 students had experienced passionate kissing at some time; 79% and 60%, respectively, had experienced sexual touching. The rates of sexual intercourse were much lower, but the same pattern held; 48% of Year 12 students and 20% of respondents in Year 10 had had sex.

Among the 27% of young people who were currently sexually active, 78% said they were using condoms (Table 1). The pill was the second most commonly used contraceptive, but was reported by 45% of these students. A substantial minority of currently sexually active respondents were using ineffective methods (14% withdrawal and 2% rhythm) or no method (5%).

Patterns of past contraceptive use showed a combination of safe and risky practices. Most sexually experienced respondents

*Partner type was defined as follows: "A casual partner is someone you have had sex with once or infrequently. A steady partner is someone with whom you have, or have had, an ongoing sexual relationship."

Table 2. Percentage of students, by sources of advice about contraception, HIV or AIDS, and other STDs (N=961)

Source of advice	Contra-ception	HIV/ AIDS	Other STDs
Local doctor/ general practitioner	30.1	17.9	19.5
Specialist/gynecologist	3.2	1.9	1.9
Community health center	5.5	5.2	5.0
Family planning clinic	8.1	4.6	5.7
Sexual health clinic	4.8	6.2	6.3
Chemist	10.1	4.5	5.2
Teacher	14.2	28.4	26.1
School health professional/counselor	10.4	15.3	13.5
Parent	39.8	36.2	35.8
Other	18.6	12.4	14.2
Never sought advice	27.1	34.7	32.2

(87%) had used condoms at some time, but 20% had practiced withdrawal.

We found marked gender and age differences in current method use (not shown). Female students were significantly more likely to say they used the pill than male students were to report that their partners relied on it (51% vs. 39%; $p < .001$), and Year 12 students were more likely than their younger counterparts to report pill use (52% vs. 31%; $p < .001$). Male respondents were more likely than females to say they were using no method (7% vs. 3%; $p < .05$), and nonuse was more common among younger than among older students (8% vs. 3%; $p < .01$).

Sources of Advice

Almost three-quarters of sexually active students had sought advice about contraception (Table 2). Parents were the major source of advice (reported by 40%), followed by local doctors or general practitioners (30%) and teachers (14%). A significantly higher proportion of women (83%) than of men (61%) had sought advice about contraception (not shown); there were no age differences in advice-seeking behavior.

Patterns of advice-seeking about HIV, AIDS and other STDs were slightly different from those regarding contraception. Roughly two-thirds of respondents had sought advice; again, parents were the major source of information (reported by 36% of students). However, students were more likely to seek information from teachers (26–28%) than from doctors (18–20%).

The Pill Versus the Condom

Of the currently sexually active students, 31% were using condoms only and 10% were using the pill only. We conducted logistic regression analyses on data from these 495 students to examine the factors

predicting the exclusive use of one of these methods.

On the basis of both prior research on correlates of condom and pill use and significant bivariate associations with current contraceptive use, we selected the following variables for inclusion in the initial regression analysis: gender;³¹ year level;³² type of partner in the previous 12 months (i.e., casual, steady or both);³³ beliefs about peers' condom use;³⁴ number of sexual partners in the previous year; and advice-seeking about contraceptives, HIV and other STDs. Gender, the number of sexual partners in the previous year, and advice-seeking about HIV and other STDs had no impact on choosing to use the pill over condoms. Consequently, these variables were excluded from further analyses.

Students in Year 12 were 4.4 times as likely as younger students to use the pill only (Table 3). Respondents who had sought advice about contraception were 2.6 times as likely as their peers who had not sought such information to be using the pill rather than condoms. By contrast, students who had had only casual sexual partners in the previous 12 months were much less likely to be using the pill than were those who had had steady sexual partners only. Beliefs about peers' condom use also had an impact; as students' perceptions of their peers' condom use increased, their likelihood of using the pill rather than condoms declined.

Because contraceptive advice-seeking was significant, we explored the impact of each source of advice. The results indicated that teenagers who sought contraceptive advice from a specialist or gynecologist were 18.5 times as likely as those who sought no such advice to use the pill rather than condoms; those who sought advice from a general practitioner or a sexual health center also had increased odds of pill use (6.2 and 5.1, respectively). Those who sought contraceptive advice from a community health center had reduced odds of using the pill rather than condoms (0.2).

Discussion

In the context of the competing safer-sex and pregnancy prevention discourses, the condom is the preferred form of contraception among Australian teenagers, followed by the pill. Notably, the reverse is true among Australian women aged 20–34.³⁵ Furthermore, the proportions of youths in our study who were protecting themselves against pregnancy and STDs, who were using effective contraceptives and who were using condoms exceeded

the proportions in several European countries and the United States.³⁶

Parents were the most important sources of advice about contraception, followed by general practitioners and teachers. While parents also were the most frequent source of advice about HIV and STDs, they were followed by teachers and then general practitioners. These findings differ from those of previous studies,³⁷ but this may be a result of differences in the measures employed. Nevertheless, our findings suggest that providing parents with current sexual health information may indirectly be a useful strategy for improving young people's sexual health.

Our results indicated that school year, type of partner and beliefs about peers' condom use were significantly associated with the odds of pill rather than condom use. These findings replicate those from other research.³⁸ By contrast, the number of sexual partners and gender were not significant predictors of choosing one method over the other.

An important new finding emerging from our study concerns advice-seeking about contraception. In general, students who had sought advice tended to use the pill rather than condoms; the odds of pill use were highest among students who sought advice from medical practitioners. Surprisingly, those who sought advice from a sexual health center were likely to use the pill rather than condoms; we would expect that providers specializing in sexual health would encourage the use of dual methods or at least condoms. By contrast, students who sought advice from community health centers, where nurses play a larger role in service provision, were likely to use condoms rather than the pill.

Table 3. Odds ratios (and 95% confidence intervals) from logistic regression analyses showing factors predicting exclusive pill use rather than exclusive condom use

Factor	Odds ratio
Year level	
10 (ref)	1.00
12	4.41 (2.25–8.63)**
Partner type in last year	
Steady only (ref)	1.00
Steady and casual	0.72 (0.44–1.18)
Casual only	0.05 (0.01–0.36)*
Peers' condom use†	0.43 (0.31–0.59)**
Sought contraceptive advice	
Never (ref)	1.00
Ever	2.64 (1.40–4.99)*

* $p < .01$. ** $p < .001$. †Continuous variable indicating respondents' perception of their sexually active peers' condom use. Possible responses were "none use," "a few do," "about half do," "most do" and "all do"; the variable was scaled 1–5. Note: ref=reference group.

Interestingly, contraceptive advice-seeking from parents or schools had no significant impact on method choice. Moreover, advice-seeking about HIV and other STDs had no effect on contraceptive use.

The simultaneous use of dual methods (condoms and the pill) has been recommended as the most effective way of preventing STDs and unwanted pregnancy.³⁹ Unfortunately, our study does not enable us to distinguish between those who use condoms and the pill simultaneously and those who alternate between the two. It would be useful for the purpose of sexual health interventions to document the proportions of students who use dual methods and who alternate between methods, and the contexts that encourage these behaviors.

Researchers and practitioners also need to consider whether promotion of dual-method use is a realistic public health strategy, given the difficulties adolescents have in obtaining methods. One significant barrier is the high cost of condoms and the newer oral contraceptive formulations.⁴⁰ Moreover, the difficulties young women face, in particular, in obtaining condoms have been well documented. When the dominant social expectation is that young women should avoid sexual activity, a teenager who carries condoms can encounter a sullied reputation and considerable social sanctions.⁴¹ The pill may be easier for young women to obtain, especially if it has been prescribed for a reason other than contraception, such as to treat acne or regulate menstrual cycles.

As we have shown, age and partner type shape teenagers' method choices. Older students and those with steady sexual partners are more likely to use the pill only rather than condoms only. When young people are in monogamous sexual relationships with partners who do not have an STD, the pill may be the appropriate method. However, beliefs about partners' sexual fidelity in adolescent relationships can often be incorrect, and "trusting to love" is no protection against STDs.⁴² Moreover, teenagers tend to have short-term sexual relationships, and very few have been tested for STDs.⁴³ It is unlikely that many teenagers have HIV or other STD tests between relationships.

Further drawbacks of the pill are the potential side effects and health risks (although these have diminished significantly with the newest pill formulations⁴⁴), and consistency of use and continuation.⁴⁵ In addition, while the method's theoretical failure rate is extremely low, the overall failure rate during actual use is higher and varies among populations.⁴⁶ Accord-

ing to one study, adolescents miss about three pills per month.⁴⁷ To increase the effectiveness of hormonal contraception, doctors in the United States recommend that teenagers use the injectable or implant.⁴⁸ This advice is not readily transferable to the Australian context, however; the implant is unavailable, and the injectable, whose introduction in 1996 was preceded by negative media reports, does not have widespread acceptance.

From the perspective of STD prevention, it is encouraging that the condom has gained primacy among Australian teenagers. This is a significant change from a decade or even five years ago.⁴⁹ However, encouraging condom use at the expense of other contraceptive methods has some negative implications, since condoms have a higher failure rate (in terms of unwanted pregnancy) than the pill.⁵⁰

If young people perceive condoms as the best form of contraception, then good backup services need to be in place for those occasions when condoms fail. Teenagers using condoms need education about and easy access to emergency contraception. Research from the United States and Britain has found low levels of knowledge about emergency contraception among women and a reluctance by general practitioners to prescribe it.⁵¹

Encouraging consistent use of condoms is important, particularly if condoms are the only method being used. Large proportions of adolescents use condoms inconsistently;⁵² 37% of sexually active students in this study indicated that they used condoms only "sometimes."⁵³ Furthermore, the substantial proportion of students using withdrawal is a cause for concern, as these young people are putting themselves at serious risk of both unwanted pregnancy and STDs.

From the STD prevention perspective, it is worrisome that young Australians who seek advice about contraception are more likely to choose the pill than the condom. This may signify that medical practitioners who advise young people consider pregnancy prevention more important than disease prevention. Alternatively, it may suggest that pregnancy prevention is a more salient concern for young people themselves⁵⁴ or that young people are seeking advice after they have decided to use the pill. Regardless, this finding illustrates that there is work to be done in ensuring that advice givers also encourage young people to protect themselves against STDs.

In conclusion, the provision of appropriate methods to adolescents remains a

complex task when the safer-sex and pregnancy prevention discourses offer divergent messages. It is vital that we educate young people about the most appropriate methods for different relationship contexts and emphasize the distinction between disease prevention and pregnancy prevention.

References

1. National Centre in HIV Epidemiology and Clinical Research (NCHECR), *HIV/AIDS and Related Diseases in Australia, Annual Surveillance Report 1997*, Sydney: NCHECR, 1997.
2. Stevenson E and Rodger A, *Surveillance of Sexually Transmissible Diseases in Victoria 1995*, Melbourne: STD/Blood-Borne Virus Program, Infectious Diseases Unit, Department of Human Services, 1997.
3. NCHECR, *Australian HIV Surveillance Report*, Sydney: NCHECR, 1997, No. 13(3); and Moore S, Rosenthal D and Mitchell A, *Youth, AIDS and Sexually Transmitted Diseases*, London: Routledge, 1996.
4. Poppen PJ, Adolescent contraceptive use and communication: changes over a decade, *Adolescence*, 1994, 29(115):503-514.
5. Gray D, Teen pregnancy a neglected issue, *The Age*, May 15, 1998, p. 17.
6. Australian Bureau of Statistics (ABS), *Births: Australia, 1997*, Canberra: ABS, 1998.
7. Gray D, 1998, op. cit. (see reference 5).
8. ABS, *Women's Health*, Canberra: ABS, 1994.
9. Watney S, *Practices of Freedom: Selected Writings on HIV/AIDS*, London: Rivers Orm Press, 1994.
10. Hillier L, Harrison L and Warr D, When you carry condoms all the boys think you want it: negotiating competing discourses about safe sex, *Journal of Adolescence*, 1998, 21(1):15-29.
11. Shapiro R, *Contraception: A Practical and Political Guide*, London: Virago, 1987; and Gordon L, *Woman's Body, Woman's Right: A Social History of Birth Control in America*, New York: Penguin, 1976.
12. World Health Organization (WHO), *Contraceptive Method Mix*, Geneva: WHO, 1994.
13. Kirkman M, Smith AMA and Rosenthal D, Safe sex is not contraception: reclaiming "safe sex" for HIV/STD prevention, *Venereology*, 1998, 11(2):25-28.
14. Sonenstein FL et al., Changes in sexual behavior and condom use among teenaged males: 1988-1995, *American Journal of Public Health*, 1998, 88(6):956-959; Cooksey EC, Rindfuss RR and Guilkey DK, The initiation of adolescent sexual and contraceptive behavior during changing times, *Journal of Health and Social Behavior*, 1996, 37(1):59-74; Poppen PJ, 1994, op. cit. (see reference 4); and Lindsay J, Smith AMA and Rosenthal DA, *Secondary Students, HIV/AIDS and Sexual Health*, Melbourne: Centre for the Study of STDs, La Trobe University, 1998.
15. Sonenstein FL et al., 1998, op. cit. (see reference 14).
16. Donald M et al., Determinants of condom use by Australian secondary school students, *Journal of Adolescent Health*, 1994, 15(6):503-510.
17. Ibid.; and Moreau Gruet F et al., Adolescent sexuality: the gender gap, *AIDS Care*, 1996, 8(6):641-653.
18. Donald M et al., 1994, op. cit. (see reference 16); Dekin B, Gender differences in HIV-related self-reported knowledge, attitudes, and behaviors among college students, *American Journal of Preventive Medicine*, 1996, 12(4, Supplement):61-66; and Wendt SJ and Solomon LJ, Barriers to condom use among male and female college students,

Journal of American College Health, 1995, 44(3):105–110.

19. Sonenstein FL et al., 1998, op. cit. (see reference 14); and Nguyet NTM et al., Sexual behaviors and condom use: a study of suburban male adolescents, *Adolescence*, 1994, 29(113):37–48.

20. Kosunen E and Laippala P, Factors related to choosing oral contraception at age 15, *Health Education Research*, 1996, 11(4):443–451; and Glor JE and Severy LJ, Frequency of intercourse and contraceptive choice, *Journal of Biosocial Science*, 1990, 22(2):231–237.

21. Kosunen E and Laippala P, 1996, op. cit. (see reference 20).

22. Leland NL and Barth RP, Gender differences in knowledge, intentions, and behaviors concerning pregnancy and sexually transmitted disease prevention among adolescents, *Journal of Adolescent Health*, 1992, 13(7):589–599.

23. Cooksey EC, Rindfuss RR and Guilkey DK, 1996, op. cit. (see reference 14).

24. Lindsay J, Smith AMA and Rosenthal DA, 1998, op. cit. (see reference 14).

25. Cooksey EC, Rindfuss RR and Guilkey DK, 1996, op. cit. (see reference 14).

26. Rosenthal DA and Smith AMA, Adolescents, sexually transmissible diseases, and health promotion: information sources, preferences and trust, *Health Promotion Journal of Australia*, 1995, 5(3):38–44; and Abraham C et al., Young people learning about AIDS: a study of beliefs and information sources, *Health Education Research*, 1991, 6(1):19–29.

27. ABS, *Schools: Australia*, 1995, Canberra: ABS, 1995.

28. Lindsay J, Smith AMA and Rosenthal DA, 1998, op. cit. (see reference 14).

29. Rosier M, *Sampling for Social Research*, Moorooduc, Australia: Survey Design and Analysis Services, 1995.

30. Eltinge J and Sribney W, Linear, logistic and probit

regressions for survey data, *The Stata Technical Bulletin Reprints*, 1997, 6:239–245.

31. Donald M et al., 1994, op. cit. (see reference 16); and Leland NL and Barth RP, 1992, op. cit. (see reference 22).

32. Donald M et al., 1994, op. cit. (see reference 16).

33. Kosunen E and Laippala P, 1996, op. cit. (see reference 20).

34. Donald M et al., 1994, op. cit. (see reference 16).

35. ABS, *Australian Social Trends*, 1998, Canberra: ABS, 1998.

36. Cooksey EC, Rindfuss RR and Guilkey DK, 1996, op. cit. (see reference 14); and Creatsas GK et al., Adolescent sexuality in Europe: a multicentric study, *Adolescent and Pediatric Gynecology*, 1995, 8(2):59–63.

37. Dunne M et al., *National HIV/AIDS Evaluation, 1992: HIV Risk and Sexual Behaviour Survey in Australian Secondary Schools. Final Report*, Canberra: Commonwealth Department of Health and Community Services, 1993; and Rosenthal DA and Smith AMA, 1995, op. cit. (see reference 26).

38. Donald M et al., 1994, op. cit. (see reference 16); and Kosunen E and Laippala P, 1996, op. cit. (see reference 20).

39. Kaunitz AM, Contraception for the adolescent patient, *International Journal of Fertility and Women's Medicine*, 1997, 42(1):30–38; and Ullman R and Lathrop L, Impact of free condom distribution on the use of dual protection against pregnancy and sexually transmitted disease, *Canadian Journal of Human Sexuality*, 1996, 5(1):25–30.

40. Weisberg E, Practical problems which women encounter with available contraception in Australia, *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 1994, 34(3):312–315.

41. Hillier L, Harrison L and Warr D, 1998, op. cit. (see reference 10); and Holland J et al., Reputations: jour-

neying into gendered power relations, in: Weeks J and Holland J, eds., *Sexual Cultures: Communities, Values and Intimacy*, London: Macmillan, 1996.

42. Moore S, Rosenthal D and Mitchell A, 1996, op. cit. (see reference 3).

43. Lindsay J, Smith AMA and Rosenthal DA, 1998, op. cit. (see reference 14).

44. Szarawski A and Guillebaud J, *Contraception: A User's Handbook*, Oxford, UK: Oxford University Press, 1994.

45. Kaunitz AM, 1997, op. cit. (see reference 39).

46. Potter L et al., Measuring compliance among oral contraceptive users, *Family Planning Perspectives*, 1996, 28(4):154–158.

47. Weisberg E, 1994, op. cit. (see reference 40).

48. Kaunitz AM, 1997, op. cit. (see reference 39); and Tafelski T and Boehm KE, Contraception in the adolescent patient, *Primary Care*, 1995, 22(1):145–159.

49. Lindsay J, Smith AMA and Rosenthal DA, 1998, op. cit. (see reference 14); and Dunne M et al., 1993, op. cit. (see reference 37).

50. WHO, 1994, op. cit. (see reference 12); and Szarawski A and Guillebaud J, 1994, op. cit. (see reference 44).

51. Gold MA, Schein A and Coupey S, Emergency contraception: a national survey of adolescent health experts, *Family Planning Perspectives*, 1997, 29(1):15–25; and Ellertson C, History and efficacy of emergency contraception: beyond Coca-Cola, *Family Planning Perspectives*, 1996, 28(2):44–48.

52. Rosenthal D and Reichler H, *Young Heterosexuals, HIV/AIDS, and STDs*, Canberra: Australian Government Publishing Service, 1994.

53. Lindsay J, Smith AMA and Rosenthal DA, 1998, op. cit. (see reference 14).

54. Rosenthal D and Reichler H, 1994, op. cit. (see reference 52).