

**A, B and C in Uganda:
The Roles of Abstinence, Monogamy
and Condom Use in HIV Decline**

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Occasional Report No. 9
December 2003

Acknowledgments

This report was written by Susheela Singh, director of research, Jacqueline E. Darroch, senior vice president and vice president for research, and Akinrinola Bankole, associate director for international research, The Alan Guttmacher Institute (AGI). This research was supported in part by The Bill and Melinda Gates Foundation.

The authors are grateful to Ann Blanc, independent consultant and Jacob Adetunji, Daniel Halperin and James Shelton, U.S. Agency for International Development, for reviewing early drafts of the manuscript. The authors thank colleagues from AGI—Ann E. Biddlecom, Susan A. Cohen, Patricia Donovan, Beth Fredrick, Cory L. Richards and Sara Seims—for their advice and comments on drafts. Erin Carbone, research associate, provided research support throughout the project and carried out data analyses; and Suzette Audam, research associate and data manager, provided data processing support.

Suggested citation: Singh S, Darroch JE and Bankole A, *A, B and C in Uganda: The Roles of Abstinence, Monogamy and Condom Use in HIV Decline*, Occasional Report, New York: The Alan Guttmacher Institute, 2003, No. 9.

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ISBN: 0-939253-61-5

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Roles of Abstinence, Monogamy and Condom Use in HIV Decline

Executive Summary



Uganda, 2002. Adolescents at the Kasana Teenage Centre, a health center for adolescents. The sign advertises that “Straight Talk,” a monthly newspaper insert on adolescent reproductive health, is available at the center.

Policymakers around the world look to Uganda as a role model in the fight against HIV/AIDS, because of its success in reducing HIV rates during the late 1980s and early 1990s. Although the epidemic continues to be a problem, the country successfully maintained reduced rates of infection through the late 1990s. To replicate the Ugandan experience, it is important to understand what happened there, and why. An increase in sexual abstinence has recently been highlighted as a primary cause of the declines; however, large increases also occurred in two other aspects of sexual behavior—monogamy and condom use—and these changes made important contributions to the reduced risk for HIV infection.

Determining the extent to which each of these factors influenced the overall decline in Uganda’s HIV rates has become a highly charged political issue. While it is difficult to quantify the precise contribution of each of the three aspects of behavior change, decision-makers nevertheless need evidence—not politics—to guide them in allocating resources to combat HIV/AIDS.

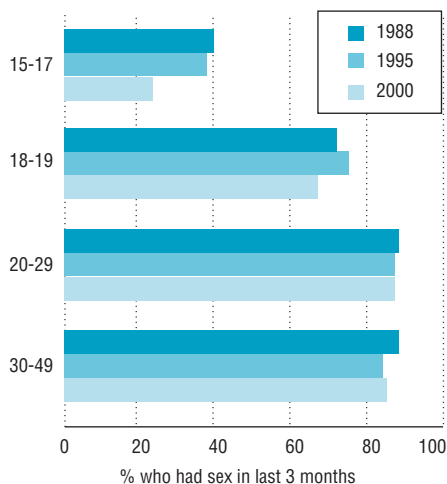
To describe and account for trends in the country as a whole, The Alan Guttmacher Institute examined nationally representative data from Uganda’s Demographic and Health Survey (DHS) conducted in 1988 (women only), 1995 and 2000 (women and men), and national-level findings from two Global Programme for AIDS (GPA) surveys carried out in 1989 and 1995 (women and men). The data were used to investigate changes that occurred in abstinence,

monogamy and condom use during the period when HIV levels were declining and during the late 1990s, when the reduced levels of infection appear to have been sustained.

Key Points

- HIV rates in Uganda declined during the late 1980s and early 1990s. The reduced levels of infection appear to have been sustained during the late 1990s.
- The proportion of women 15–17 who had ever had sex decreased from 50% in 1988 to 46% in 1995 and 34% in 2000. There were also large declines in sexual experience among adolescent men between 1989–1995. However, abstinence did not increase among those who had already had sex.
- Men and women of all ages were much less likely to have more than one sexual partner in a 12-month period in 1995 than in 1989. Among unmarried sexually active women, 15% had more than one partner in 1995, compared with 31% in 1989; for unmarried men, the proportions were 26% in 1995 and 59% in 1989. The proportions continued to decline among unmarried women between 1995–2000, but some age-groups of unmarried men were more likely to have multiple partners in 2000 than in 1995.
- Condom use rose substantially during the 1990s among both men and women, especially those who were unmarried. Among unmarried women who had had sex in the past four weeks, the proportion who used condoms rose from 1% in 1989 to 14% in 1995. Among unmarried men in this category, use rose from 2% to 22%.
- Since the late 1980s, the Ugandan government, NGOs and activists have promoted a comprehensive approach to prevention, termed “ABC” (Abstinence, Be Faithful (monogamy) and Use Condoms). However, the precise contribution of each of these strategies to behavior change in Uganda remains unknown.

Chart 1: Adolescent women were less likely to be sexually active in 2000 than in 1988.



Source: Tabulations of data from Uganda DHS, 1988, 1995 and 2000.

The data do not, however, reveal what caused these behavior changes. Since the late 1980s, the Ugandan government, a wide array of nongovernmental organizations (NGOs) and activists have promoted programs and policies designed to influence these three behaviors through a comprehensive approach to prevention, termed “ABC” (Abstinence, Be Faithful (monogamy) and Use Condoms). More research is needed on the specific factors that were critical to changing behavior, and the extent to which these programs were responsible, to provide guidance to those seeking to replicate Uganda’s success and to identify further steps that Uganda might take to continue the reduction of HIV incidence.

Uganda’s Success: What Happened?

- Declines in HIV prevalence (the proportion of the general population that is infected at a given point in time) during the 1990s were significant. According to estimates by the U.S. Census Bureau and the Joint United Nations Programme on HIV/AIDS

(UNAIDS), HIV prevalence in Uganda peaked at around 15% in 1991 and then fell to 5% by 2001.

- Declines in HIV infections probably occurred somewhat earlier, in the late 1980s and early 1990s, and appear to have been sustained throughout the decade.

- The precise size and timing of the declines are difficult to pinpoint because much of the data available from the late 1980s and early 1990s were collected from a limited, non-representative population: pregnant women who were tested in antenatal clinics in a few urban areas. In addition, the timing of infection would have been earlier than the testing date, but there is no way to determine the exact timing of reduced exposure to HIV or of actual HIV infection.

Reasons for the Decline

A: Abstinence. The “A” prong of “ABC” stands for abstaining from sex. Fewer Ugandans reported having sex at young ages in 1995 and 2000 than in the late 1980s. However, abstinence did not increase among those who had ever had sex.

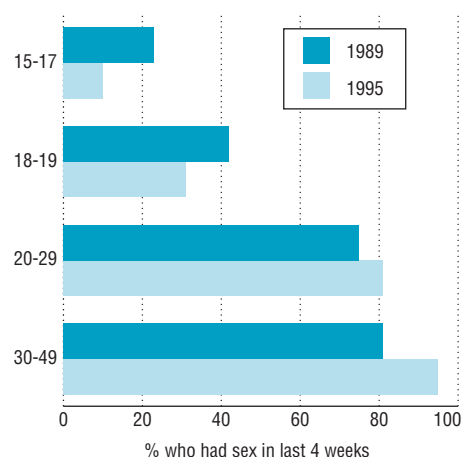
- The proportion of women 15–17 who had ever had sex decreased from 50% in 1988 to 46% in 1995 and 34% in 2000. Declines were much smaller for 18–19-year-olds. Among those 15–17 who were sexually experienced, the proportion who were *sexually active* (had sex in the past three months) increased between 1988–1995, but declined between 1995–2000.

- Between 1989–1995, there were large declines in the proportions of men 15–17 and 18–19 who had ever had sex. Declines were smaller between 1995–2000.

- However, men 15–17 and 18–19 who were sexually experienced were *more* likely to be sexually active in 2000 than in 1995 (the proportions increased from 33% to 44% and from 58% to 72%, respectively).

- The proportion of people of all

Chart 2: Adolescent men, but not adult men, were less likely to be sexually active in 1995 than in 1989.



Source: Tabulations of data from Uganda GPA, 1989 and 1995.

ages who were sexually active dropped substantially only among young adolescent women (Chart 1); it increased among some age-groups of men (Chart 2).

- In 2000, about half of all unmarried women were sexually

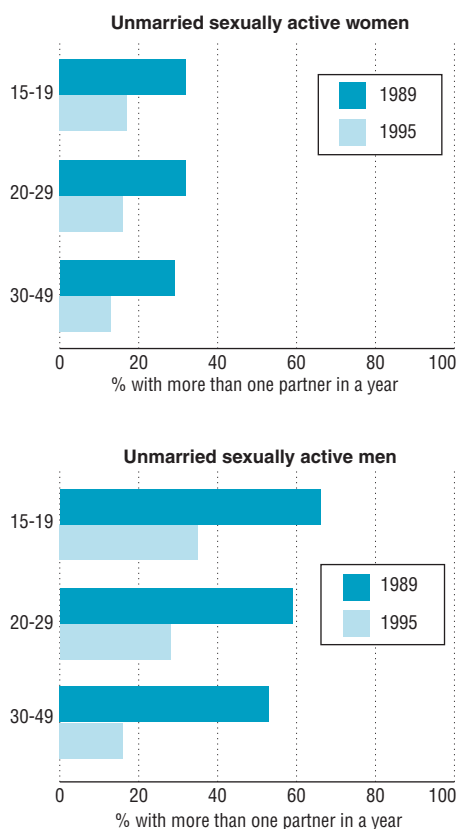
Information Sources

This report relies on data from the Demographic and Health Survey (DHS) and the Global Program for AIDS (GPA) survey.

The DHS, which included questions about sexual behavior, number of partners and condom use, was carried out among nationally representative samples of women and men of reproductive age in Uganda. Surveys of women were conducted in 1988, 1995 and 2000 and thus span the period during which HIV prevalence declined; surveys of men cover only 1995 and 2000. The DHS data are useful because they provide evidence on key factors for the country as a whole.

The GPA obtained comparable data on sexual activity, number of partners and condom use among Ugandan women and men 15–49 in 1989 and 1995. These surveys supplement the DHS data, particularly by providing data on men in the late 1980s as well as some information that is lacking in the 1988 DHS for women. However, it is not clear that the GPA surveys are nationally representative; as a result, they are more limited in terms of documenting overall trends applicable to the entire country.

Chart 3: Unmarried sexually active women and men were less likely to have more than one sexual partner in a year in 1995 than in 1989.



Source: Tabulations of data from Uganda GPA, 1989 and 1995.

experienced. This is the same proportion as in the late 1980s, although there was a temporary decline between the late 1980s and 1995.

- In 2000, just over half of all unmarried men were sexually experienced. The proportion changed little between 1995–2000, but was significantly lower than in 1989, when the proportion was nearly three-quarters.

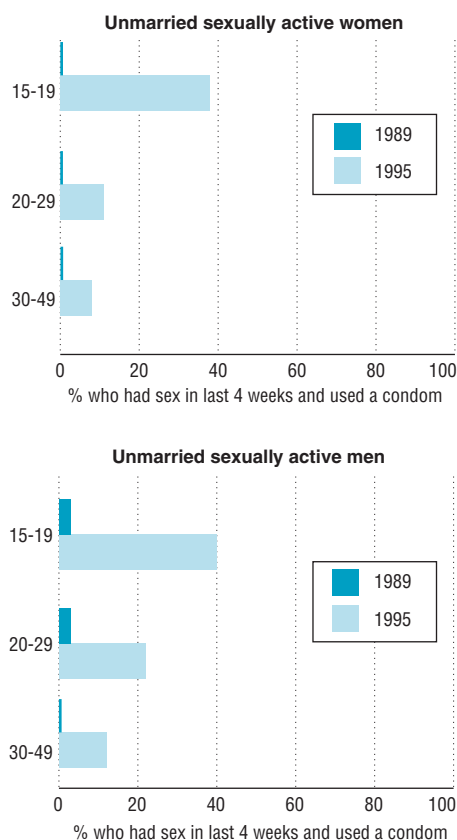
B: Monogamy. The “B” prong in “ABC” represents “be faithful” (monogamy), and reflects the likelihood that a reduced number of sexual partners means less exposure to HIV. Increased monogamy, especially among unmarried women, contributed to lowering HIV risk in Uganda during the period 1989–1995. However, there was much less change between 1995–2000.

- Both men and women were much more likely to be monogamous in 1995 than in 1989 (Chart 3). Even in 1995, though, more than one in four unmarried sexually active men had two or more sexual partners, and nearly one in 10 married men had one or more casual sexual partners in a one-year period.

- The proportion of unmarried women with more than one sexual partner continued to decline between 1995–2000. However, some age-groups of unmarried men were more likely to have multiple partners in 2000 than in 1995.

- The proportion of married men with multiple partners increased among some age-groups between 1995–2000 and decreased among other age-groups. The proportion of married women with multiple partners remained very small in both years.

Chart 4: Unmarried sexually active women and men of all ages were more likely to use condoms in 1995 than in 1989.



Source: Tabulations of data from Uganda GPA, 1989 and 1995.

C: Condom use. The “C” prong of “ABC” represents condom use, which increased steeply during the 1990s among both men and women, especially those who were unmarried; however, men were more likely than women to use condoms.

- Among those who had had sex in the past four weeks, the proportion of women using the condom increased from 0% in 1989 to 8% in 1995; among men, it increased from 1% to 11%.

Among unmarried women, the proportion using the condom increased from 1% to 14%, and among unmarried men, it rose from 2% to 22% (Chart 4).

- Over the period 1995–2000, condom use increased among sexually active women overall, but increases were greatest among younger age-groups: from 6% to 25% among women 15–17, and from 3% to 12% among 18–19-year-olds.

- Similarly, among sexually active men 15–17, condom use increased from 16% in 1995 to 55% in 2000, and among those 18–19, it increased from 20% to 33%.

- Among unmarried sexually active women, condom use increased from negligible levels in 1988 to 37% by 2000.

- Condom use also rose significantly among unmarried sexually active men, from 39% in 1995 to 57% in 2000.

- Current use of condoms was very low among married women and men, but increased slightly between 1995–2000.

Conclusions

Progress on the three components of the ABC approach contributed to bringing about and sustaining reduced exposure to HIV in Uganda. These results are consistent with current prevention efforts and highlight the importance of an integrated approach to

combating the HIV epidemic worldwide. Development funds to combat HIV should focus on policies and programs designed to target all three prongs: “A,” “B” and “C.”

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Introduction

Accumulating evidence supports the conclusion that HIV *prevalence* declined significantly in Uganda during the early 1990s, probably reflecting a decline in HIV *incidence* in the late 1980s and early 1990s. These declines appear to have been sustained into the late 1990s.* According to estimates by the US Census Bureau and Joint United Nations Programme on HIV/AIDS (UNAIDS), national prevalence peaked at around 15% in 1991 and fell to 5% by 2001.¹ These declines are encouraging, although the magnitude of the change at the national level is smaller than reported in some sources². (See Box on page 10)

A great deal of attention has been focused on understanding the reasons for reduced HIV prevalence in Uganda.³ Unfortunately, this question has become highly politicized.⁴ The allocation of development funds to combat HIV, not just in Uganda but in other countries as well, have been affected by perceptions of what happened in Uganda.

Two related but often confused debates about the Uganda experience are going on simultaneously. One has to do with the changed behavior of Ugandans and the relative contributions of those behavior changes to reducing and sustaining HIV rates at lowered levels. Some have argued that abstinence and monogamy have played a much more important role in Uganda than has condom use.⁵ Several studies in Uganda have documented levels and trends in abstinence, sexual partnerships and condom use for particular geographic areas and population groups in the direction of decreasing risk.⁶ However, such data are often not representative of the entire country. This analysis makes use of national data that have not heretofore been examined

in order to assess the directions and magnitudes of changes in these three key behaviors, often termed ABC for Abstinence, Be Faithful (monogamy) and Use Condoms.

The other debate has to do with what caused these behavior changes. Broad social factors, including political commitment and support at the highest levels for a multisectoral approach for combating the HIV epidemic, were undoubtedly important indirect forces in forming a context for, and contributing to, behavior changes and the decline. President Museveni supported a comprehensive approach to containing the epidemic, including widespread media campaigns, along with other interventions to educate all sectors of the population about the HIV epidemic, the modes of infection and of prevention, and the importance of fighting stigma and discrimination against people infected with HIV. More clarity on the factors that were critical to changing behaviors, and insights into their relative impacts, would help provide guidance for those seeking to replicate Uganda's success and to identify further steps that Uganda might take in order to continue the reduction of HIV incidence.

The current analysis can shed light on the debate over the impact of behavior changes, but it can also better inform the debate on the factors influencing these changes, which, in turn, will affect allocation of resources and program emphases across many arenas.[†] It will do so by identifying which of the key behaviors were changing most strongly during the periods when HIV prevalence and incidence were declining steeply and were continuing at reduced

*Prevalence is measured as the proportion of the general population that is infected at a given point in time; incidence is the number of new cases per year, and is usually expressed as the number of new cases diagnosed per 1,000 people in the general population.

† An earlier version of this report was made available in the form of a memorandum in October 2002 and a revised version was prepared in March 2003 to take into account the fact that 1995 data on number of sexual partners are for a 6-month period, while 2000 data are for a 12-month period. This revised report includes analyses of the Global Programme for AIDS (GPA) surveys carried out in 1989 and 1995.

levels; by elucidating similarities and differences in behavior change across subgroups by sex, marital status and age; by investigating patterns of change in multiple measures of these three aspects of behavior so as to better understand why overall measures of abstinence, monogamy and condom use did or did not change; and by documenting recent levels of key behaviors that indicate relative success or, conversely, challenges needing further attention so as to continue the reduction in HIV infection in Uganda.

The report seeks to contribute to the understanding of reasons for the decline of HIV in Uganda by examining available evidence from two sets of surveys that obtained information from women and men in Uganda regarding sexual behavior and condom use during the period of documented decline to and maintenance of lower levels of HIV prevalence. It investigates possible changes in three key behaviors that may have directly affected people's risk of contracting and transmitting HIV:

1. Increased sexual *abstinence*, i.e. (a) fewer people who have ever had sex, measured as an increase in the age at initiation of sexual activity among young people and a decrease in the proportions of women and men who have ever had sexual intercourse; and (b) fewer sexually experienced people who continue to have sexual intercourse, measured as an increase in the proportions of youth and adults who have ever had intercourse but who are not sexually active.

2. An increase in the proportion of people in *monogamous relationships*, measured as (a) a reduction in the proportions of unmarried sexually active men and women who had multiple sexual partners; and (b) a reduction in extramarital sexual relationships among married men and women. (Reduction of infection risk by lowering numbers or types of partners among people in polygamous relationships is not covered in this report.)

3. An increase in *condom use* among sexually active men and women.

Although the national survey data presented in this report are limited, these analyses can be useful for those involved in policies and programs aimed at reducing HIV in Uganda and elsewhere: They address behaviors that play a crucial role in HIV transmission and therefore elucidate the need for and potential of interventions aimed at changing these behaviors so as to further stem the HIV epidemic.

Measuring HIV Prevalence

The accuracy of measures of HIV prevalence and incidence is dependent on the availability of representative data from HIV screening of the general population; the quality of measurement of trends over time is dependent on having comparable data over the period being studied. UNAIDS/WHO's estimates of trends in HIV prevalence in Uganda, based on all available sentinel surveillance data for pregnant women (the only population group with sufficient trend data to document change over the decade), show a decline in major urban areas from a median of about 30% in 1990 to a median of 14% in the late 1990s, and a decline in the rest of the country (all areas other than major urban areas) from a median of about 13% in 1992 to about 8% in the late 1990s. National adult (15–49) HIV prevalence was estimated to be 8% in 1999 and 5% in 2001.¹

New information for a rural population in southwest Uganda has documented a decline in HIV incidence there from 8.0 cases per 1,000 person years in 1990 to 5.2 cases in 1999. This study also reported a decline in HIV prevalence from 10% in 1990 to 8% in 1999 among all adults 15–49.² The levels and size of the declines in prevalence and incidence have been difficult to pinpoint for Uganda as a whole, because measurement in the early period of the epidemic was based on a few urban surveillance sites that provided data for pregnant women tested in antenatal clinics.³ These early measures show very high prevalence levels among pregnant women: 25–30% in the period 1989–1992. However, these levels should not be generalized to all Uganda, because women who attend prenatal clinics are not representative of the general population, and because urban-based measures are not representative of the country, which is 85% rural. HIV prevalence measures that have become available in the mid- to late 1990s from rural surveillance sites are much lower, suggesting that national HIV prevalence was much lower in the early 1990s.

¹Joint United Nations Programme on HIV/AIDS (UNAIDS) and World Health Organization, *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections: Uganda*, Geneva: UNAIDS, 2000 Update (Revised) and 2002 Update.

²Mbulaiteye SM et al., Declining HIV-1 incidence and associated prevalence over 10 years in a rural population in south-west Uganda: a cohort study, *Lancet*, 2002, 360(9626):41–46.

³Zaba B, Boerma T and White R, Monitoring the AIDS epidemic using HIV prevalence data among young women attending antenatal clinics: prospects and problems, *AIDS*, 2000, 14(11):1633–1645.

Methodology

This report relies on two sources of data for its analyses: Demographic and Health Surveys (DHS) and Global Program for AIDS Survey (GPA). The DHS, which included questions about sexual behavior and condom use, have been carried out in recent years among all women and men of reproductive age in Uganda. The surveys of women were conducted in 1988, 1995 and 2000 and thus span the period during which HIV incidence apparently declined, the late 1980s and early 1990s, as well as the later years of sustained lower infection levels; the surveys of men cover only 1995 and 2000. The DHS data are useful because they provide evidence on key factors for the country as a whole, and may therefore more appropriately be applied to understanding behavioral changes behind the decreased national rates of HIV infection than studies of particular areas of the country.

Some similar information is also available from national surveys carried out by the GPA in 1989 and 1995. These surveys, which also include women and men 15–49, obtained comparable data on sexual activity, number of sexual partners and condom use for these two years. They provide information that is useful and complementary to that of the DHS surveys: data on men in the late 1980s and some information that is lacking in the 1988 DHS for women. However, it is not clear that the GPA surveys are nationally representative, making them more limited for documenting overall trends applicable to the entire country.

We tabulated data from the 1988 DHS survey of Ugandan women 15–49 and the 1995 and 2000 DHS surveys of Ugandan women and men 15–49 and present those data for five-year age-groups as well as for younger and older adolescents. Weights provided by the DHS were used to calculate measures that are nationally representative. Although the total national samples for women are very large and those for men

are quite large (see Appendix Table 1), subgroups of women and men by age and marital status are much smaller. Measures are less precise when they are based on smaller numbers of respondents. For example, the standard error around the proportion of all women who had never married in the 2000 survey (20.1%) is 0.7%, which means that the 95% confidence interval around the estimate of 20.1% is 18.7% to 21.5%. The parallel proportion for all men who had never married is 34.4%, with a sample error of 1.4% and a 95% confidence interval of 31.7% to 37.2%. Relative standard errors (RSE, or the sample error divided by the value, expressed as a percentage) are typically under 5% for most measures for all women and men; however, the RSE can rise to 10–15% for measures with low values (for example, the percentage using condoms among all currently married women). To take into account situations when the sample size is too small to provide a reliable estimate, results are shown in all tables for three larger age-groups (15–19, 20–29 and 30–49), to obtain a minimum sample size (20 unweighted respondents) when possible. For most measures presented here, the number of respondents is much larger than this. When the number of respondents in the denominator is small (less than 20 cases), the value is not shown. Groups that have a large margin of error because of their small size, even after collapsing age-groups, include married adolescent men and unmarried men and women 30–49. Because sample variation is sizable for small groups, interpretation and conclusions from the data presented should rest on both the size of differences and the existence of systematic patterns or trends.

The GPA surveys also have large samples (Appendix Table 2), however, they over-sample the urban population: In 1989, the proportion urban in the GPA sample of women 15–49 was 40%, compared with an estimated 12% urban in the

weighted 1988 DHS survey of women 15–49. The proportion urban in the 1995 GPA survey of women 15–49 was 37%, compared with an estimated 15% urban in the weighted 1995 DHS survey. However, the survey and its documentation do not provide sample weights. Lacking full information on sample design and sample variables, we could not calculate estimates of standard errors for the GPA surveys. Because of the overrepresentation of the urban population in the GPA surveys, we applied proportions urban (specific to age, sex and sexual activity status) to measures for urban and rural areas, to calculate standardized estimates for the total population, for both 1989 and 1995. The standardized results are approximately representative of the country;‡ however, there may be other dimensions on which the GPA surveys are not representative, and this standardization would not have taken any other such differences into account. Both the DHS and the GPA surveys carried out in the late 1980s excluded the eight districts of the North region because of civil unrest and insecurity in these areas.

In this report, we rely mainly on the DHS surveys, given that they are nationally representative, and because they allow documentation of change over a longer time (1988 to 2000). We rely upon the 1989 and 1995 GPA surveys particularly for measures that they alone provide, such as the number of sexual partners for men and women for 1989, data for men in 1989 and data on the number of sexual partners for the full one year period in 1995. We also make summary comments on the extent to which the two surveys show similar results and comment on instances when they differ substantially.

The data presented here for both surveys were obtained through in-person interviews and were self-reported by respondents. Given the sensitive nature of the information, there is likely to have been underreporting of some behaviors, though this is likely to depend on gender and marital status. For example, underreporting of sexual activity may be higher among unmarried women than among unmarried men, while underreporting of condom use or possibly of extramarital partners may be greater among married people. The well-documented tendency for respondents to give answers that are

‡ The standard proportions were obtained from the 1988 and 1995 DHS surveys; in the case of standardization of the 1989 GPA data, 1988 proportions urban among women were applied to both men and women in the GPA, since data specific for males was lacking in the 1988 DHS.

more socially desirable may result in apparent, but inaccurate, changes over time in the proportions who report sensitive behaviors (e.g., sexual activity while unmarried, multiple partners or condom use); moreover, such changes could be in either direction, depending on changes in which behaviors are considered to be socially desirable. However, assessment of bias in the reporting of age at first intercourse across the three DHS surveys found that consistency of reporting across cohorts for at least this measure was quite high for both women and men.⁷

Different Measures Used

Further, the surveys used different measures to ascertain exposure to multiple sexual partners. The GPA surveys obtained comparable data on number of sexual partners in the past year, for unmarried men and women and for married women, in 1989 and 1995. However, for married men, the survey for 1989 obtained the number of “regular” partners§ —a number that included wives, cohabiting partners and other extramarital partners whom the respondent considers to be “regular” and does not allow separate identification of these different types of partners. As a result, the GPA surveys provide trend information for married men only on the proportion who had one or more nonregular extramarital partners.

The 1995 and 2000 DHS obtained information about numbers of partners for men and women, and for those who were unmarried or married, including all extramarital partners for married respondents.^{**} However, the information from these two surveys is not strictly comparable. For 1995, information was obtained on the number of sexual partners during the six-month period before the interview, and for 2000, this measure was obtained for the 12-month period before interview. If all other things remained the same, the longer the period of exposure, the higher the proportion with two or more partners would be, even with no real change in behavior. Thus, an

§ A “regular” partner was defined in the 1989 GPA survey by the interviewer as follows: “By regular partner, I mean a person with whom you have had sex for more than one year. That person could be someone with whom you have had sex for less than one year but with whom you intend to continue having sex. The person could also be someone you’re married to, someone with whom you do not live or someone who does live in the same house.”

** The 1988 survey of women did not obtain information on number of sexual partners.

apparent increase in the proportions with two or more partners between 1995 and 2000 may be due simply to the difference in exposure periods being measured or, if it were particularly large, may suggest a true increase. By the same token, any observed decline between 1995 and 2000 would reflect an actual change in behavior, but understate the extent of change.

The DHS measures of condom use presented here are taken from different series of questions asked of women and men. In all cases, the purpose is to have measures that are comparable across surveys. In most cases, comparisons are possible across gender as well as across surveys; however, in the case of condom use, some measures are only comparable *within* gender across surveys. Information on ever-use of the condom is available for both women (all three survey years) and men (the two most recent survey years). However, the DHS measures of recent use of a condom differ for men and women. For women, two measures of use in the current period are available: The first is taken from a question that asked about current use of condoms for pregnancy prevention; the second uses additional data obtained in the context of questions on risk for sexually transmitted infections (STIs), including HIV and is based on a question that was open-ended and did not specify the reason for using the condom, which implied that it included use for STI/HIV prevention.^{††} For men, only one comparable measure, is available for both survey years (1995 and 2000); it is available from a question that asked about use of the condom at last intercourse within the year before the survey, with no specification of the reason for use, implying that use for either STI/HIV or pregnancy prevention or both were included. Thus, the reference period for this measure for men is longer compared to women—for men the measure is for last intercourse in the recent one-year period, and it is based on men who were sexually active in the

past year; for women, it is a current status measure, and therefore results are presented for women who were sexually active in the three months before interview.

Information on condom use at last intercourse is available from the GPA 1989 and 1995 surveys. The question was asked only of respondents, married and unmarried, men and women, who had intercourse in the past four weeks. This shorter reference period for condom use may mean that by comparison with the DHS, a lower level of use may be reported. The GPA surveys asked if a condom was used at last intercourse but did not ask about the reason for use, suggesting that both of the main reasons for use would be included.

Ranking of Impacts Not Possible

The available data can help identify whether the factors considered are likely to have contributed to lower levels of HIV infection, and can also provide an indication of the size and importance of the different factors. However, these data cannot provide a precise assessment or ranking of the relative importance of each factor for a number of reasons:

- The size and timing of the decline in the outcome variable of interest (HIV infection) is itself not measured exactly, and it is probably not possible to measure it with precision, since data collected and available from the early years of the epidemic are limited and not nationally representative and because exact timing of HIV infection is not clear from measures of HIV prevalence.
- Information for population subgroups is limited. HIV prevalence is even less-precisely measured by gender and age-group than for the nation as a whole. This makes it difficult to identify how differing patterns and levels of behavior change across subgroups may have contributed to the overall change in HIV prevalence for the population as a whole. In addition, differences in behaviors related to HIV risk are also likely to exist across other population groups than the ones presented here (for example, subgroups based on geographic area, ethnicity, religion or other characteristics), but it is not feasible with available data to analyze how behaviors differ across all relevant groups or how HIV prevalence has been affected by subgroup changes in these behaviors. In addition, national household surveys such as those used here are limited in their ability to identify and study small subgroups

^{††} In the DHS surveys of women, current use of the condom (for pregnancy prevention purposes) was obtained from the question: “Are you currently doing something or using any method to delay or avoid getting pregnant?” “Current” is not defined with any more preciseness than this, and there is therefore some ambiguity in what period women were thinking of when they reported current use: It may have been the current month or the recent few months. In the most recent two surveys (1995 and 2000), additional questions were asked on ever-use of the condom for STI/HIV prevention, and on use of the condom at last intercourse for any reason, including both STI/HIV prevention and pregnancy prevention.

of people who may be at especially high risk for HIV transmission and infection, such as men who have sex with men and men and women with very high numbers of sexual partners.

- Available information about sexual behavior and sexual partnerships is limited. While we can measure declines in multiple partnerships and in extramarital relationships, we cannot directly draw out the implications of these changes for the HIV infection for particular age-groups, since we do not have specific information on the age of each partner or on the exact timing of this decline relative to reduction in HIV. We also lack other relevant information, such as duration of relationships, extent to which relationships overlap, frequency of intercourse for each relationship, specific sexual practices, condom use with different partners, partners' behavior or HIV risk status of either the respondents or their partners.
- Other factors may also affect the rate of transmission of HIV. Increased effectiveness of condom use (through improved consistency and correctness of use) could be an important factor in reducing HIV transmission, but measures of change in these factors are not available. The prevalence of other STIs also influences HIV transmission.
- The positive connection between male circumcision and reduced HIV risk has recently become clear, and this is a factor that would interact with all of the other behaviors mentioned above.⁸
- Available data do not cover northern Uganda because of civil unrest, which may foster the spread of HIV. Nor do they identify soldiers and others who moved from those areas to other parts of Uganda. Finally, data presented in this report do not address HIV transmission from mother to child or by means other than through heterosexual intercourse. The influence of HIV infection on the fecundability of women will impact on childbearing and on transmission from mothers to infants.⁹

Findings

Abstinence

Fewer Ugandans Initiated Sex at Young Ages in 2000 than a Decade Earlier

- *Age at initiation of sexual intercourse has increased for young women and men.* The median age at first intercourse among young women in Uganda increased from 15.9 in 1988 to 16.3 in 1995 and to 16.6 in 2000 (as reported by women 20–24 in each survey) (Figure 1). Among young men, the median age at first intercourse rose more steeply over the period 1995–2000, from 17.3 to 18.5.

- *The proportion of young women and young men who had ever had sex has decreased.* Between 1988 and 1995, the proportion of adolescent women aged 15–17 who were sexually experienced including both married and never-married women declined slightly, from 50% to 46%; by 2000 the proportion had dropped to 34% (Table 1, Women, Panel 1; Figure 2). The decline among women 18–19 was much smaller, from 81% in 1988 and 82% in 1995 to 77% in 2000. These decreases had little impact on the proportion of all women 15–49 who ever had intercourse, because most women of reproductive age are 20 and older, and almost all of them are sexually experienced.

GPA data also indicate declines in the proportions of women 15–17 and 18–19 who were sexually experienced (Table 2, Women, Panel 1). In addition, data show substantial declines in the proportion of men 15–17 and 18–19 who were sexually experienced, between 1989 and 1995 (Table 2, Men, Panel 1; Figure 3).

DHS data from 1995 and 2000 show a somewhat different pattern of change among young men compared with young women: There was little change in the proportion of younger adolescent men (15–17) who were sexually experienced (29% in 1995 and 27% in 2000) (Table 1, Men, Panel 1; Figure 4). However, the proportion of men 18–19 who ever had sex declined noticeably, from 71% in 1995 to 59% in 2000. These changes are reflected in

a slight decrease in the proportion of all men aged 15–49 who were sexually experienced: 86% in 1995 compared with 83% in 2000.

There Has Been No General Pattern of Increased Abstinence Among Sexually Experienced Men and Women.

- *Changes in marriage patterns among youth and young adults were countered by changes in nonmarital sexual activity.* Trends in the proportions of young women and men who had ever had intercourse reflect divergent trends the proportions of young people who were married and who were unmarried and sexually active. The nationally representative DHS data show that proportions of adolescent women 15–17 and 18–19 who had ever married rose between 1988 and 1995, then declined sharply between 1995 and 2000 to levels lower than in 1988 (Table 1, Women, Panel 2; Figure 2). Changes were smaller, though in similar directions, among women 20–24. While somewhat different trends are found from GPA data for 1989–1995 in the proportion ever married among young women 15–17 and 18–19, the differences are relatively small (Tables 1 and 2, Women, Panel 2).

Both the DHS and GPA indicate steep decreases between the late 1980s and 1995 in the proportions of never-married women who were sexually experienced, and in the proportions of all women who were sexually experienced and had never married (Tables 1 and 2, Women, Panels 3 and 4). DHS data show that among never-married adolescent women, the proportions who were sexually experienced rose between 1995 and 2000, albeit to lower levels than in 1988 (Table 1, Women, Panel 3). The proportions of never-married women in their 20s who had ever had sex was as high or higher in 2000 than in either previous survey year. As a result,

sexually experienced, never-married women accounted for smaller proportions of all adolescent women and all women in their early 20s in 1995 than in 1988, but about the same proportions in 2000 as in 1988 (Table 1, Women, Panel 4).

Data available from the GPA show an increase between 1989 and 1995 in the proportion married among 18–19 and 20–24 year-old men, and little change at older ages (Table 2, Men, Panel 2; Figure 3). Data from the DHS surveys show that between 1995 and 2000, the proportions of adolescent men 18–19 and young men in their early 20s who had ever married declined noticeably (Table 1, Men, Panel 2; Figure 4).

The GPA data show large declines in the proportion of never-married men who were sexually experienced between 1989 and 1995 for ages 15–29 (Table 2, Men, Panel 3). Data from the DHS surveys show that between 1995 and 2000, the proportion of never-married men 18–19 who had ever had intercourse declined somewhat, but that little change occurred among those aged 15–17 and 20–29 (Table 1, Men, Panel 3). The proportion of all men 18–19 who were sexually experienced and never married was somewhat lower in 2000 than in 1995, reflecting the fact that while there were more never-married men, fewer of them were sexually experienced. However, the proportion of men 20–24 who were sexually experienced and never married rose between 1995 and 2000 (from 33% to 42%, Table 1, Men, Panel 4), primarily because there were more never-married young adult men, even though there was little change 1995–2000 in their levels of sexual experience.

• *More sexually experienced adolescent men and women were never married in 2000 than in the previous survey years.* The net effect of changes in marriage and in sexual experience among those who had never married is that adolescent women in 2000 were less likely to have had sexual intercourse, and therefore to be exposed to the risk of HIV infection *within marital unions* than their counterparts in 1988, but they were almost as likely to have had intercourse and to possibly have been exposed to HIV *in nonmarital sexual relationships* in 2000 as in 1988. These patterns of change are similar among younger (15–17) and older teenagers (18–19), but changes are larger among the younger women (Table 3, Women, Panel 1). In 2000, 59% of sexually experienced young women 15–17 had never married, compared with 46% in 1988. However, among all other age-

groups in all three DHS surveys, most sexually experienced women were married. On these measures, GPA data for women for the years 1989 and 1995 are quite consistent with DHS data for those years.

Data available from the GPA for the period 1989 to 1995 show that the proportion never-married among sexually experienced men decreased among adolescents and men 20–24 (Table 4, Men, Panel 1). DHS data, however, show an increase in the proportion of sexually experienced men 18–19 and 20–24 who had never married between 1995 and 2000 (Table 3, Men, Panel 1). Both surveys agree on the point that most sexually experienced adolescent men had never married for all the years they cover.

• *There was no consistent change in the proportion of sexually experienced women and men who were currently sexually active.* The proportion of sexually experienced young women 15–17 who were currently sexually active (e.g., had sex in the last three months) decreased from 77% in 1988 to 68% in 2000, after increasing between 1988 and 1995 (Table 3, Panel 2, Women; Figure 5). There were small changes for other age-groups and no systematic pattern in terms of direction (increase or decrease). GPA survey data confirm the increase in this measure between 1989 and 1995 among 15–17-year-olds (which signifies a decrease in abstinence among those who were sexually experienced); the GPA data also show substantial increases among women at ages 30–49, unlike DHS data, which show relatively little change at these age-groups over this period (Table 4, Women, Panel 2).^{**}

Data available from the GPA for the period 1989–1995 show a decrease in current sexual activity (or an increase in abstinence) among sexually experienced adolescent men 15–17, no change among 18–19 year olds, and the opposite trend, or a decrease in abstinence, at all older ages (Table 4, Men, Panel 2; Figure 6). DHS data for the later period, 1995–2000, show a reverse in this trend for adolescent men 15–17 and 18–19, that is, an increase in current sexual activity (or a decrease in abstinence) among sexually experienced adolescent men (Table 3, Men, Panel 2; Figure 7). The proportion of sexually experienced men 15–17 who were currently sexually active rose from 33% in 1995 to 44% in 2000; the proportion among men 18–19 increased from 58% to 72%.

^{**} For the unmarried, the GPA surveys define current sexual activity as having intercourse in the past four weeks.

Small increases in current sexual activity occurred among some older age-groups, but this was not a systematic pattern.

- *The proportion of all people currently sexually active dropped substantially only among young adolescent women and increased across some age-groups of men.* The proportion of all women aged 15–17 who had had sex in the last three months decreased from 39% in 1988 and 37% in 1995 to 23% in 2000 (Table 3, Women, Panel 3; Figure 8), reflecting decreases in both the proportion who ever had sexual intercourse and the proportion of sexually experienced 15–17-year-old young women who were currently sexually active. There was also a decrease among women aged 18–19, from 71% in 1988 to 66% in 2000. There was little change among women in the other age-groups. GPA survey data for 1989 and 1995 show small changes for older age-groups as do DHS data for this period, although the proportions reported in the GPA are somewhat lower because, for the unmarried, current sexual activity in the GPA surveys is defined to include those who had intercourse in the four weeks before interview, a shorter period of time than the three month reference period used for the DHS analysis.

Data available from the GPA for the period 1989 to 1995 show a substantial decrease in current sexual activity (or an *increase* in abstinence) among all adolescent men 15–17 and 18–19, and the opposite trend, or a substantial *decrease* in abstinence at all older ages 20–49 (Table 4, Men, Panel 3; Figure 9). DHS data for the period 1995–2000 showed relatively little change for most age-groups in the proportion currently sexually active, although the proportion increased somewhat among men 25–29, 40–44 and 45–49 (Table 3, Men, Panel 3; Figure 10).

Monogamy

As noted in the Methodology section, number of sexual partners is defined differently in the GPA and DHS surveys and was also measured differently in the 1995 and 2000 DHS surveys. As a result, the GPA estimates do not allow estimation of the extent to which married men have extramarital partners, and the DHS figures underestimate decreases in the proportions with multiple partners and may not be accurate in indicating stable or increasing proportions with multiple partners. Although these data are not exactly comparable, we present this information because they are the only recent data on multiple

partners, and because they do provide some indication of the direction of change.

- *Between 1989 and 1995, the proportions of women and men, both married and unmarried, who had had multiple sexual partners declined.* GPA data show substantial declines in multiple partnership among sexually active unmarried women and men: from 31% in 1989, to 15% in 1995 among women and from 59% to 26% among men (Table 5, Women, Panel 3 and Men, Panel 3; Figures 11 and 12). Even so, levels in 1995 were still moderately high for unmarried men. The proportions reporting multiple partners are substantially lower among women than among men at all ages and in both years.

The information available for married men for the period 1989–1995 from the GPA surveys is limited to the proportion who had one or more nonregular or casual partners. Extramarital partners whom men considered to be “regular” cannot be separately identified in 1989. Thus, the proportions of married men with multiple partners would actually be somewhat higher than the results shown in Table 5. However, the data shown in Table 5 are comparable across the two surveys, and show sharp declines in the proportion with one or more casual partners at all ages.

- *Fewer unmarried sexually active women in all age-groups had two or more partners in 2000 than in 1995, but proportions may have increased for some age-groups of unmarried men.* The proportion of unmarried sexually active women who reported having had two or more partners during the past year declined among all age-groups, with an overall reduction from 10% in 1995 to 4% in 2000 (Table 6, Women, Panel 3; Figure 13).

There was less consistent change among unmarried men who had been sexually active during the past year (Table 5, Men, Panel 3; Figure 14). The proportion of sexually active single men who had two or more partners in the past year was 24% in 1995 and 27% in 2000. There was a small decline in multiple sexual partnerships among 18–19-year-old men (from 32% to 28%), but older unmarried men (25–29 and 30–49) reported large increases in the proportion who have had two or more partners in the past year.

Given the qualifications discussed above regarding the different reference periods, actual declines in multiple partnership would be even larger than those documented from these data; the large

increases discussed above may overstate the actual extent of change; and where increases are small, no real change may have occurred.

- *There is no clear or consistent pattern of change between 1995 and 2000 in monogamy among all sexually experienced and all currently married women and men.* The proportion of all sexually experienced women and men and of all married women and men who had had two or more sexual partners in the past year changed little for most age-groups between 1995 and 2000. Exceptions to these findings include women 15–17, who experienced a decline from 8% in 1995 to 4% in 2000 in the proportion who had two or more partners in the past year, and men 45–49, who experienced a decline from 11% to 6%. An exceptional increase—from 13% to 20%—was reported by men 25–29.

In both 1995 and 2000, no more than 8% of sexually experienced women in any age-group reported that they had had two or more sexual partners in the recent period (six months in 1995 and 12 months in 2000), compared with 8–23% of men; overall, 3–4% of all sexually experienced women and 14% of all sexually experienced men reported more than one sexual partner in this period (Table 6, Women and Men, Panel 1).

The levels of and trends in the proportion of currently married women and men with two or more sexual partners in the past year are similar to those among all sexually experienced people, as would be expected, since the former make up the overwhelming majority of women and men 15–49 (88% and 83%, respectively, in 2000). The proportion of married women 15–17 who had had two or more partners in the past year decreased from 9% in 1995 to 4% in 2000 (Table 6, Women, Panel 2); there was little or no change in the proportions among other age-groups. Currently married 18–19-year-old men reported a large increase in the proportion with multiple partners, from 16% in 1995 to 25% in 2000^{§§}; however, small declines were reported among most other age-groups (Table 6, Men, Panel 2).

Again, given the qualifications discussed above regarding the different reference periods, actual declines in multiple partnership over the period 1995–2000 would be larger than those documented;

^{§§} Despite its large size, this result is probably not significant because of small sample size: the unweighted number of married 18–19-year-old men is 27 respondents in 1995 and 24 in 2000.

the large increases discussed above may actually reflect much smaller increases in proportions with multiple partners; and where increases are small, no real change may have occurred.

Condom Use

Despite their limitations, available data on condom use provide an indication of trends in this protective behavior and allow us to gauge its potential for contributing to overall trends in HIV prevalence and incidence. We present measures for the total sexually active population and for married and unmarried sexually active women and men separately. Special attention is focused on unmarried women and men, because their levels of multiple partnership in a recent one-year period increase their risk for HIV infection.

- *Ever-use of a condom increased substantially among both women and men.* The proportions of sexually experienced women and men who had ever used a condom increased greatly, as reported by women over the periods 1988–1995 and 1995–2000, and by men, for the period 1995–2000 (Table 7, Panel 1; Table 8, Panel 1).

The proportion of sexually experienced women 15–49 who reported in 2000 that they had ever used a condom was much lower than that reported by men: 15% and 41%, respectively. This pattern has been observed in many countries, due partly to underreporting of condom use by women and partly to men's reporting condom use with partners other than their wives.¹⁰ Despite the difference between men and women in reported levels of use, the patterns of large increases in ever-use of the condom during the 1990s are similar for women and men.

- *Current or recent use of condoms rose among all sexually active women and men, especially among those in younger age-groups.* The proportion of sexually active women who reported condom use for any reason, including pregnancy prevention, increased from 3% in 1995 to 6% in 2000 overall, but from 6% to 25% for women 15–17 and from 3% to 12% among 18–19-year-olds (Table 7, Panel 3; Figure 15).

Condom use also increased among sexually active men. Among all men who were sexually active during the past year, use of the condom at last intercourse increased from 9% in 1995 to 15% in 2000, but among 15–17 year olds, it increased from 16% to 55%, and among men 18–19 and 20–24, from

about 20% to roughly 33% (Table 8, Panel 2; Figure 17).

Further evidence of substantial increases in condom use among both men and women between 1989 and 1995 is provided by the GPA surveys. Results show that among those who had intercourse in the past four weeks, the proportion using the condom increased from 0% in 1989 to 8% in 1995 among all sexually active women, from 1% to 11% among all sexually active men with larger increases among younger men (Figure 16). Increases were large among all age-groups and among both married and unmarried men and women, but the largest increases occurred among unmarried men and women (from 2% to 22% and from 1% to 14%, respectively, over the period 1989-1995, Table 9, Women and Men).

- *Current use of condoms was very low among married women and men, but increased slightly by 2000.* The proportion of married women who reported current condom use (whether for pregnancy prevention or for other reasons such as STI/HIV prevention) ranged from 0–3% across subgroups in 1988, 1995 and 2000, though proportions increased very slightly between 1988 and 2000 (Table 10, Panels 1 and 2).

Married men of all ages also reported negligible levels of condom use in 1989, and slightly increased use by 1995, based on data on use of condoms in the last four weeks (Table 9, Men, Panel 2). Married men also reported small increases between 1995 and 2000 (based on data on current use of condoms measured as use at last intercourse in the past year) (Table 11, Panel 1). A higher level of condom use among *married men* was reported in the 1995 GPA than compared with the 1995 DHS survey (9% compared with 3%), the fact that the GPA measure is of use in the past four weeks, and the DHS measure is for use at last intercourse in the past 12 months may partly explain this difference, if for example, more continuously sexually active married men are also those with extramarital partners, given that men with multiple partners have higher levels of condom use.¹¹

- *Condom use increased substantially among unmarried sexually active women and men between 1988 and 2000.* From negligible levels in 1988, current use of condoms for pregnancy prevention rose from 0% to 16% among unmarried sexually active women between 1988 and 1995, and then increased further to 24% in 2000 (Table 10, Panel 3).

However, while the level of condom use for pregnancy prevention rose steeply among adolescents and older adults (30–49 year-olds) between 1995 and 2000, it changed little for unmarried women 20–29. Data on use of condoms for any reason show a similar pattern of increase; the absolute size of the increase is somewhat larger, increasing over all ages from 23% in 1995 to 37% in 2000 (Table 9, Panel 4; Figure 18).

Unmarried men 15–49 who were sexually active in the four weeks before interview reported larger increases in use of the condom between 1989 and 1995 (Table 10, Men Panel 3 and Figure 19). Unmarried men 15–49 who had had sex in the past year also reported large increases in condom use between 1995 and 2000 (Table 11, Panel 2; Figure 20). The proportion rose from 39% in 1995 to 57% in 2000. Increases were proportionally largest among adolescents and those 25–29 (Figure 20).

Implications

Implications of Behavior Changes in Risk for HIV Infection

The evidence from national surveys of men and women suggests that changes in all three of the factors investigated—abstinence, monogamy and condom use—contributed to reducing and sustaining HIV infection at lower levels in Uganda, at least among some women.

Increased delay in initiation of sexual activity over the period 1988–2000 contributed to a reduction in the risk of HIV infection: Adolescent women 15–19 were less likely to have initiated sexual intercourse in 2000 than in 1988, as were adolescent men 18–19 in 2000 compared with 1989. Furthermore, delaying the onset of sexual intercourse may also have contributed to more stable and monogamous partnerships and higher levels of effective condom use. However, when all changes in sexual behavior are taken into consideration, the effect of increased abstinence on the overall level of sexual exposure to the risk of HIV infection is moderated. Other small-scale studies have found larger changes in abstinence, but these may not be generalizable.^{12,***}

For example, abstinence did not increase among those who had ever been sexually active and therefore did not contribute to reducing exposure to HIV infection for those individuals over the time period covered by the DHS data. Those adolescents and young adults who have sexual intercourse were increasingly likely to be married between 1988–

1995, but between 1995–2000, this trend was reversed and they are increasingly likely to be unmarried and they were also more likely than older adults to be exposed to multiple sexual partners. These trends to some extent counterbalance the impact of reduction in risk from later onset of sexual intercourse.

The proportion of sexually experienced people who were sexually active at the time of the survey hardly changed for women, except for a decline among those 15–17, and actually increased among adult men and women, from the late 1980s to 2000, potentially increasing adults' risk for HIV infection. The net impact of changes in initiation of sexual intercourse and of abstinence among those who had had sex is reflected in the proportion of all women and men who were sexually active in the three months before each survey period. This measure indicates a decrease in ongoing levels of exposure over the period 1988–2000 to HIV risk among all adolescent women and men, but increased exposure to HIV risk (GPA) or relatively little change (DHS) for adult women and men in most age-groups.

Sharp increases in monogamy also contributed to lowering the risk for HIV infection for the periods 1989–1995 (GPA) and 1995–2000 (DHS). These increases reduced the risk for HIV infection among younger married women and among unmarried sexually active women at all ages. They understate the importance of overall reduction in the number of sexual partners. Other research has shown that partner reduction among those having multiple partners can also be highly significant in terms of epidemiological impact on HIV infection.¹³

Increased monogamy protected unmarried men over the period 1989–1995 (GPA data shown here and also discussed in other studies¹⁴); the limited data available for married men for this time period also show that this factor changed in the direction of reduced risk of HIV infection for them. There was

*** Other research has shown much sharper declines in sexual initiation among primary school pupils aged 13–16 in one district in Uganda (the Soroti District); however, the national data indicate that such large declines did not occur in the country as a whole. It is possible that the greater behavior change in this district resulted from interventions particular to this district; in addition, in general, adolescents attending school may be more exposed to educational interventions than the average adolescent, and more likely to change their behavior in response to such interventions.

little change, however, in the more recent period, 1995-2000, in the proportions monogamous among unmarried sexually active men, though older married men reported declines in number of partners.

Steep increases in use of the condom among the unmarried sexually active population, both men and women, also contributed to reduction in HIV risk, based on information for the period 1988–2000 for women; and for the period 1989–2000 for men (using both GPA and DHS data). While married men also reported a small increase in current use of condoms, there was little change in the level of use reported by married women. Information on consistency and correctness of use is not available from national surveys.

This paper considers trends among both women and men, because changes in either group affect both groups. It is notable that the level of monogamy among married people has not changed much, and a substantial proportion of married men are not monogamous, and most do not use condoms. As a result, married women are at high risk of infection, particularly given that it would be much more difficult for them to refuse to have sex with their partners, compared to unmarried women.

Implications for Policy and Programs

This analysis shows that positive behavior change in all three areas of ABC, abstinence, being faithful (monogamy) and condom use have contributed to the decline of HIV in Uganda to sustained lower levels.

These results are consistent with the broad diversity of interventions and of groups and organizations that have been active in implementing interventions, and suggest that the current approach in Uganda—where a large number of organizations and groups implement a range of different policies and programs that together address all three of the main factors that influence HIV infection—is likely to be effective in reducing the prevalence of HIV.

The size, and probable impacts, of changes in these factors differed by gender, age and marital status, and in many cases the changes were small. They were greatest among young women, especially those 15–17, and some groups of young men, suggesting perhaps that interventions have been differentially directed at young men and women or have been more effective among young people, as well as that they have had a bigger potential for change because of their age and unmarried status. Relatively high levels of exposure to multiple sexual

partners and low levels of condom use across all age-groups, however, indicate the need for continued education, service and other intervention efforts.

More research is needed, both to compare patterns of change in other countries with the Ugandan situation and to ascertain more about what social changes and interventions led to these behavioral changes; some studies are already underway.¹⁵ But, anecdotal evidence points to strong government commitment, destigmatization of people with HIV/AIDS and a comprehensive approach to behavior change in the area of sexual activity, sexual relationships and condom use. And, further, stopping HIV/AIDS in Uganda and worldwide requires work even beyond changes in these behaviors. As one expert cautioned in a recent overview of the current understanding regarding HIV levels and trends in Uganda, “Another frequent mistake encountered is the notion that the decline in prevalence rates must be due to a few specific interventions introduced by the Ugandan government...the government is but one player in the fight against HIV-1. There are hundreds of non-governmental organizations (NGOs), religious groups and community activists also working to prevent the spread of HIV/AIDS in Uganda.”¹⁶ Coverage of the recent visit by President Bush to Uganda also highlights the multiplicity of factors that contributed to Uganda’s success in containing the HIV epidemic, and points to the dual contributions of “reduction in casual sex and an increase in condom use”.¹⁷ This article also points out that a key factor in the decline in prevalence of HIV in Uganda is the government's "uniquely creative and strategic policy approach to enable non-state actors in their individually targeted messages about prevention," and specifically highlights the importance of the comprehensive approach implemented in Uganda.¹⁸

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Figure 1. The median age at first sexual intercourse has risen for both women and men in Uganda.

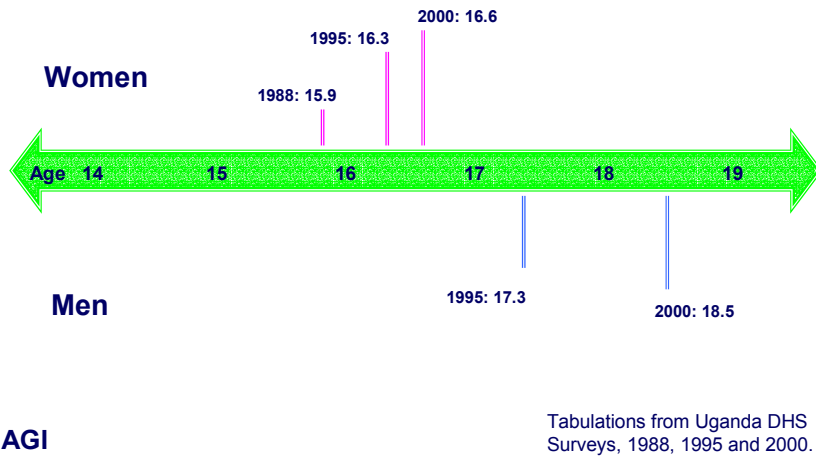


Figure 2. The proportion of women who were sexually experienced declined steeply among those 15–17 and decreased slightly among those 18–19 between 1988 and 2000.

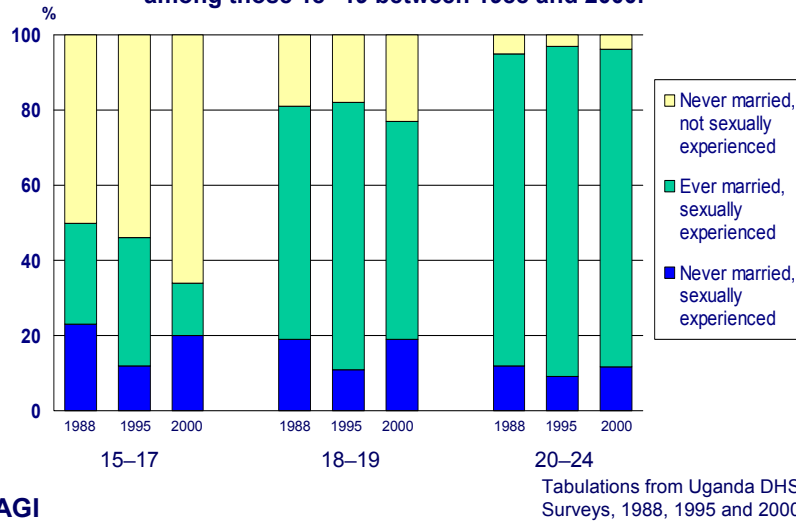
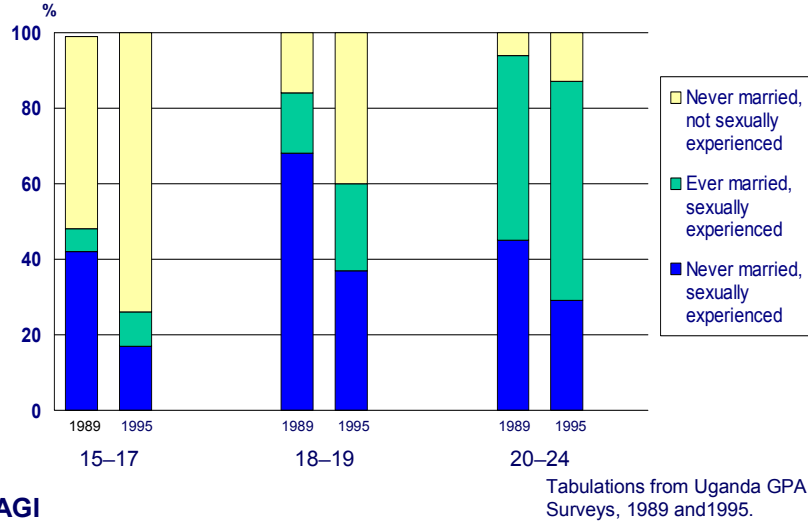
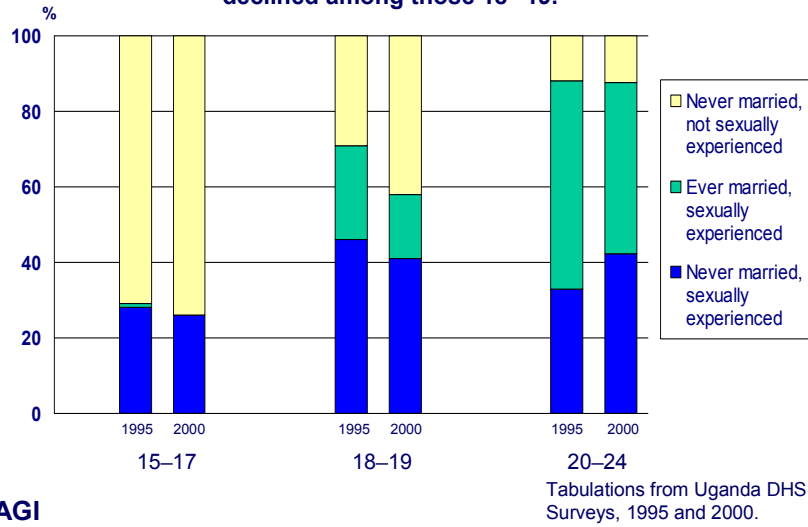


Figure 3. Between 1989 and 1995, the proportion of adolescent men who were sexually experienced declined steeply.

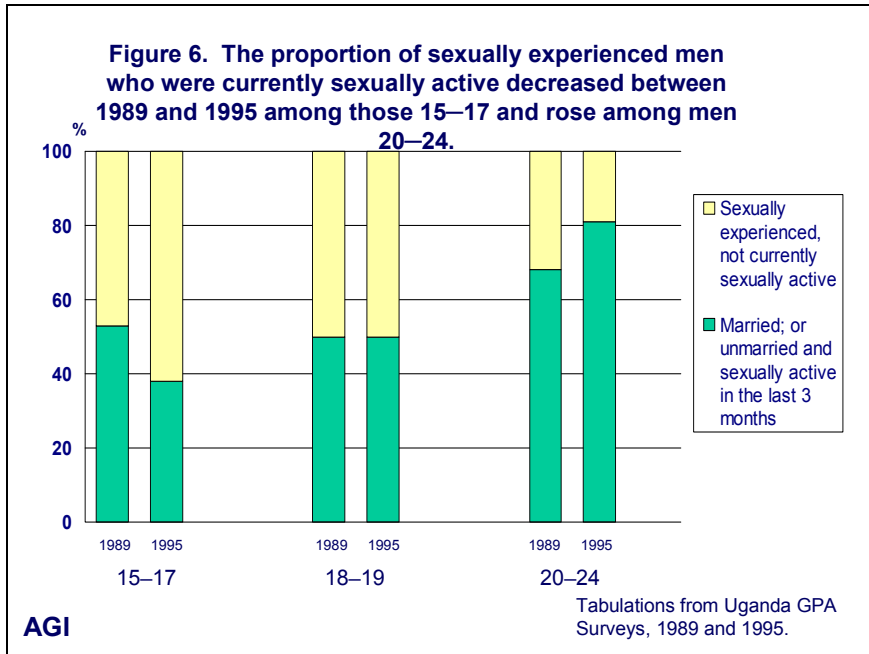
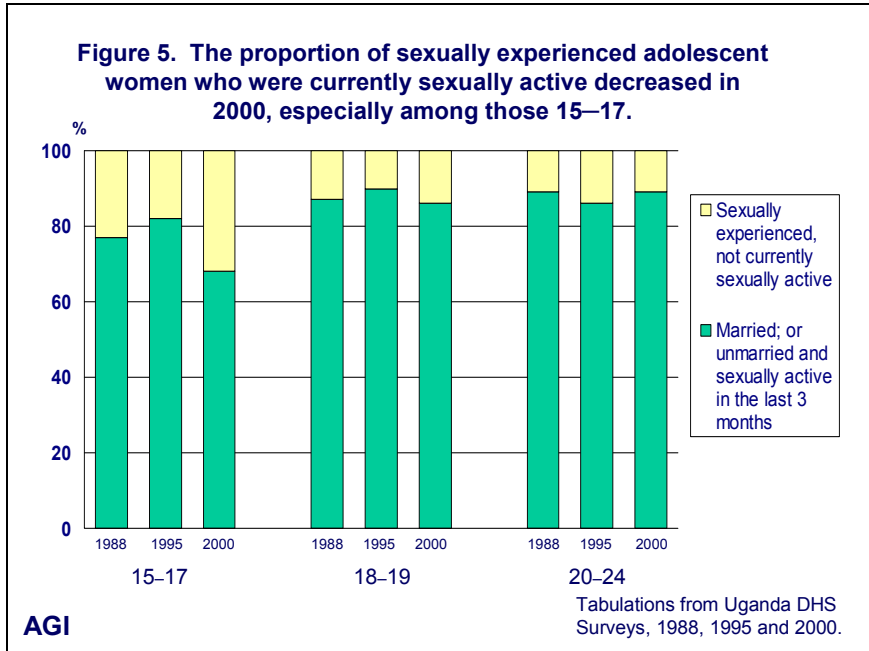


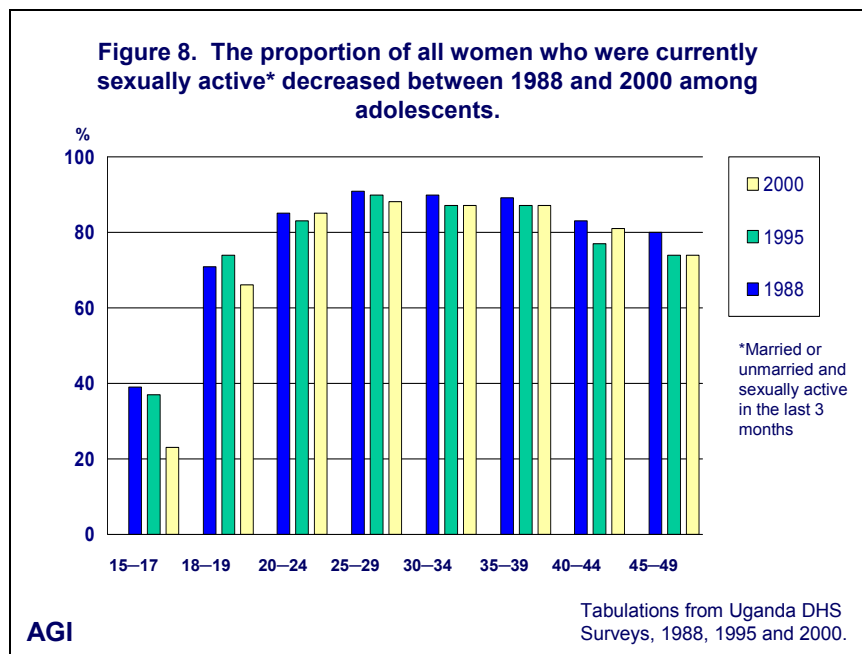
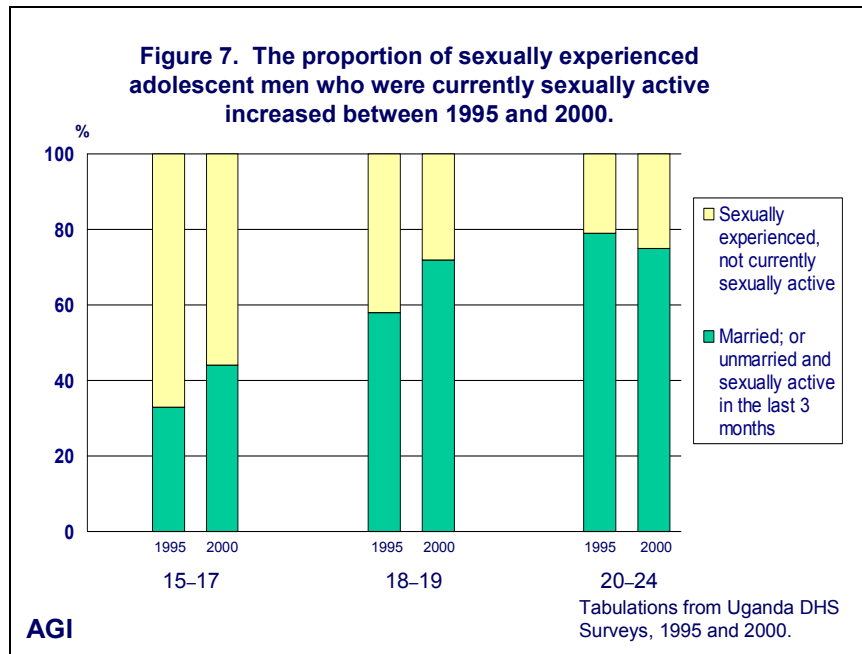
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Figure 4. The proportion of men who were sexually experienced changed little between 1995 and 2000 among those 15-17, but declined among those 18-19.



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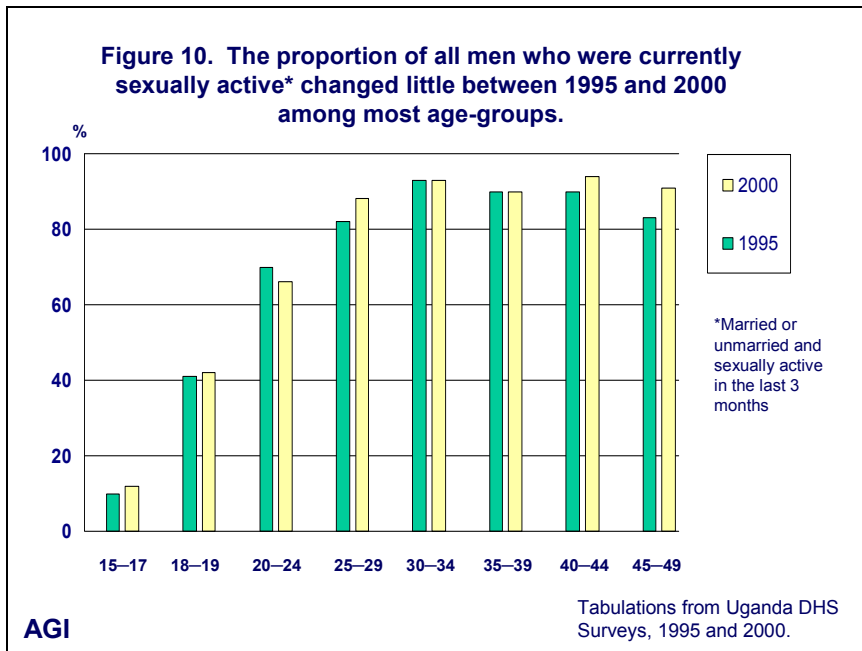
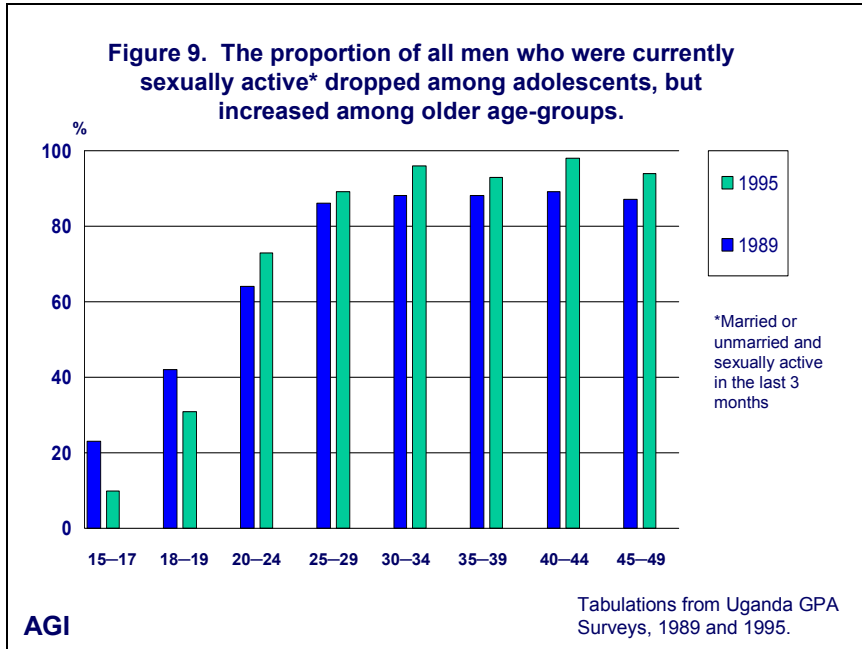


Figure 11. Among unmarried women who were sexually active in the past year, the proportion with two or more partners decreased between 1989 and 1995.

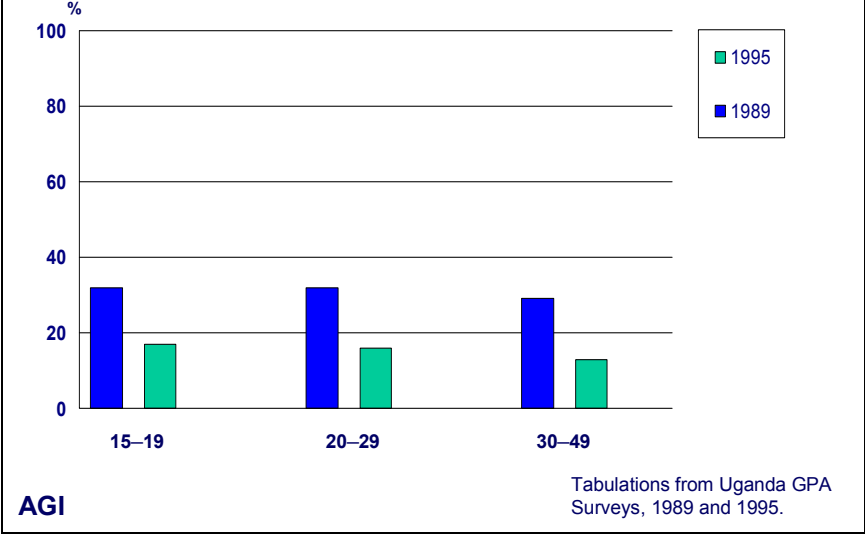


Figure 12. Among unmarried men who were sexually active in the past year, the proportion with two or more partners decreased between 1989 and 1995 at all ages.

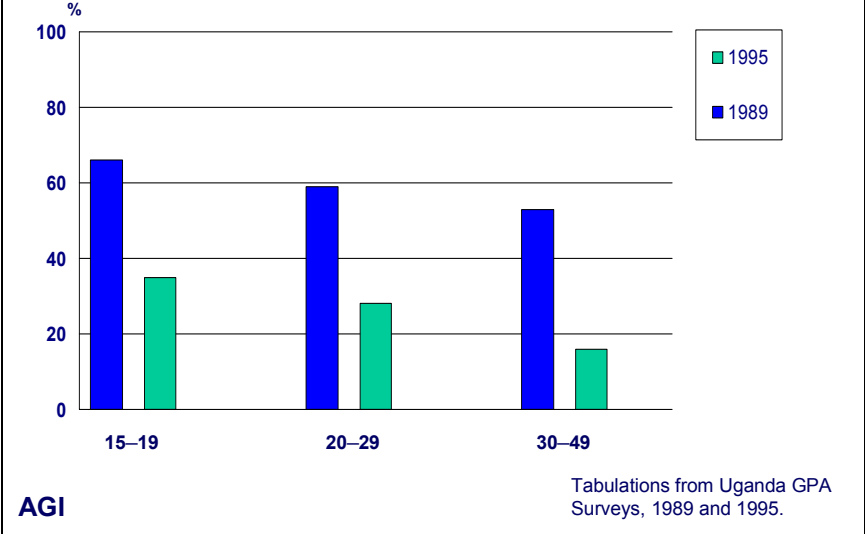
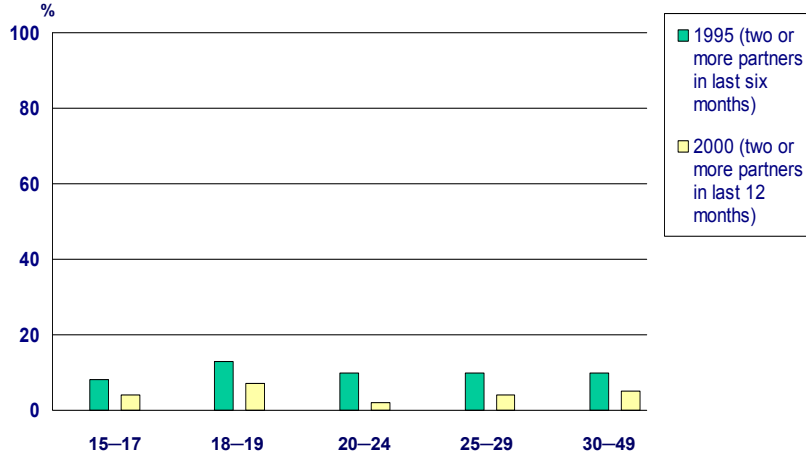


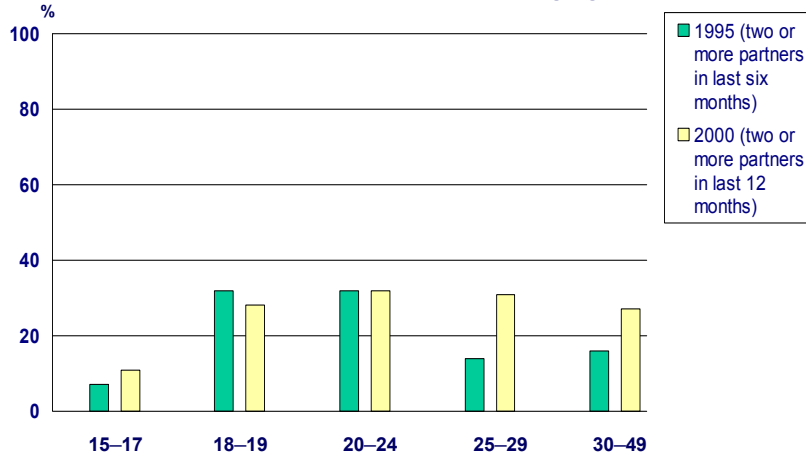
Figure 13. Among unmarried women who were sexually active in the past year, the proportion who had two or more partners decreased between 1995 and 2000.



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Tabulations from Uganda DHS Surveys, 1995 and 2000.

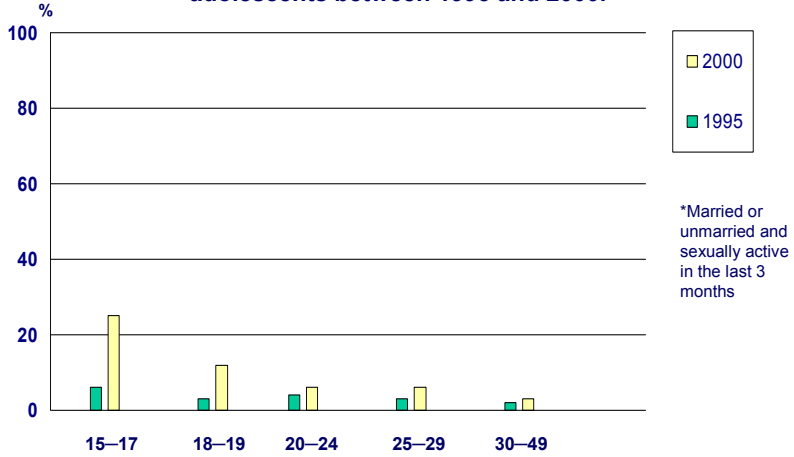
Figure 14. Among unmarried men who were sexually active in the past year, the proportion with two or more partners rose between 1995 and 2000 in some age-groups.



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Tabulations from Uganda DHS Surveys, 1995 and 2000.

Figure 15. The proportion of currently sexually active women using condoms for any reason increased steeply among adolescents between 1995 and 2000.

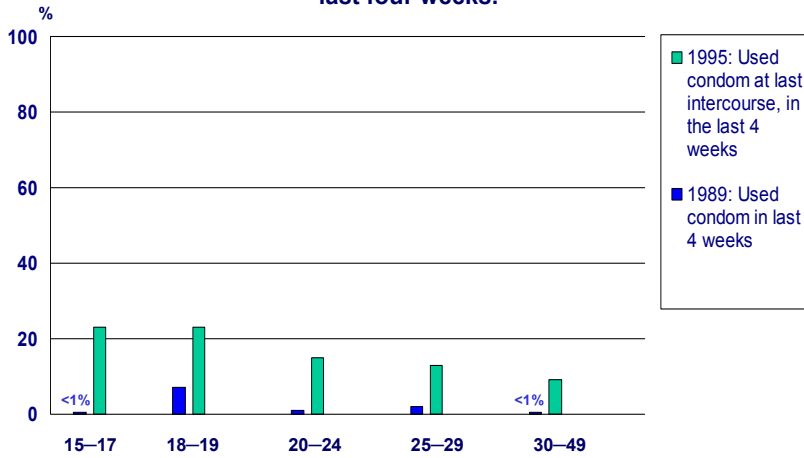


*Married or unmarried and sexually active in the last 3 months

Tabulations from Uganda DHS Surveys, 1995 and 2000.

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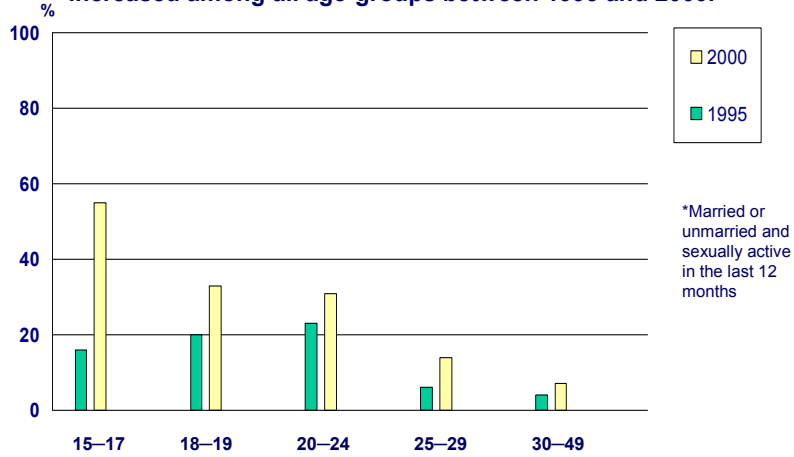
Figure 16. Condom use in the last four weeks increased between 1989 and 1995 across all age-groups of men who had sex in the last four weeks.



Tabulations from Uganda GPA Surveys, 1989 and 1995.

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Figure 17. Among men who were sexually active in the past year*, the proportion who used condoms at last intercourse increased among all age-groups between 1995 and 2000.

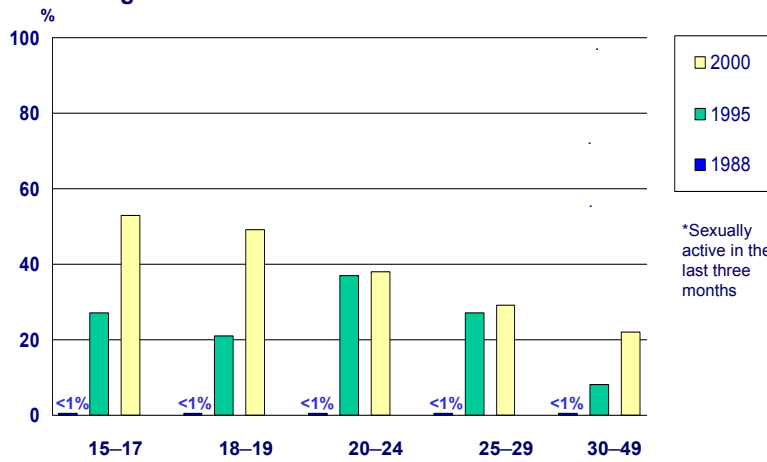


*Married or unmarried and sexually active in the last 12 months

Tabulations from Uganda DHS Surveys, 1995 and 2000.

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Figure 18. Among unmarried, sexually active* women, the proportion using condoms for any reason increased steeply among adolescents and women 30-49 between 1995 and 2000.

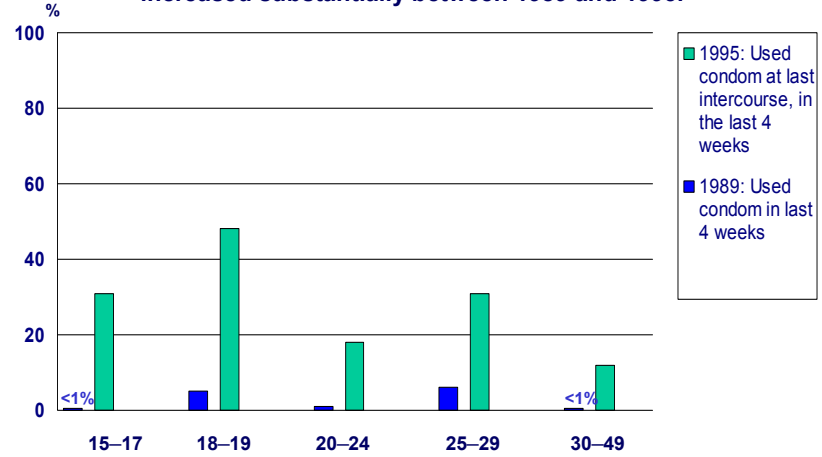


*Sexually active in the last three months

Tabulations from Uganda DHS Surveys, 1988, 1995 and 2000.

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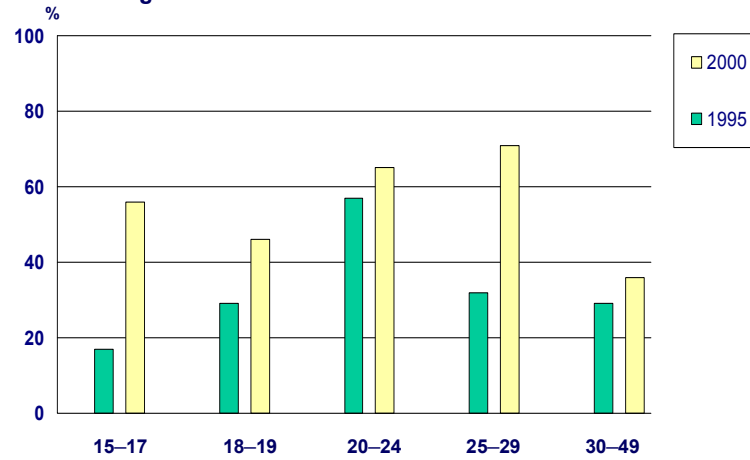
Figure 19. Among unmarried men who were sexually active in the past four weeks, the proportion who used condoms during that time period increased substantially between 1989 and 1995.



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Tabulations from Uganda GPA Surveys, 1989 and 1995.

Figure 20. Among unmarried men who were sexually active in the past year, the proportion who used condoms at last intercourse increased substantially among adolescents and those 25-29 between 1995 and 2000.



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Tabulations from Uganda DHS Surveys, 1995 and 2000.

Table 1. Among Ugandan women and men aged 15-49, percentage who were sexually experienced and percentage who had ever married, percentage of those who had never married who were sexually experienced and percentage of all women and men who were sexually experienced and had never married, by gender and age-group, Demographic and Health Surveys, 1988-2000.

A. WOMEN

| | Percentage of all women who were sexually experienced | | | Percentage of all women who had ever married* | | | Percentage of never-married women who were sexually experienced | | | Percentage of all women who were sexually experienced and had never married | | |
|-------|---|------|------|---|------|------|---|------|------|---|------|------|
| | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 |
| 15-17 | 50 | 46 | 34 | 27 | 34 | 14 | 32 | 19 | 23 | 23 | 12 | 20 |
| 18-19 | 81 | 82 | 77 | 62 | 71 | 58 | 50 | 38 | 46 | 19 | 11 | 19 |
| 20-24 | 95 | 97 | 96 | 83 | 88 | 85 | 72 | 76 | 75 | 12 | 9 | 12 |
| 25-29 | 99 | 99 | 99 | 96 | 94 | 94 | 78 | 82 | 90 | 4 | 5 | 6 |
| 30-34 | 100 | 100 | 100 | 98 | 98 | 97 | na | na | 80 | 2 | 2 | 2 |
| 35-39 | 99 | 100 | 100 | 99 | 99 | 98 | na | na | na | 0 | 1 | 2 |
| 40-44 | 99 | 100 | 100 | 99 | 100 | 100 | na | na | na | 0 | 0 | 0 |
| 45-49 | 100 | 100 | 100 | 99 | 99 | 100 | na | na | na | 1 | 1 | 1 |
| 15-19 | 62 | 62 | 52 | 41 | 50 | 32 | 36 | 23 | 29 | 22 | 12 | 20 |
| 20-29 | 97 | 98 | 98 | 89 | 91 | 89 | 72 | 76 | 79 | 8 | 7 | 9 |
| 30-49 | 100 | 100 | 100 | 98 | 99 | 98 | 70 | 86 | 78 | 1 | 1 | 1 |
| Total | 89 | 90 | 88 | 81 | 84 | 78 | 46 | 38 | 47 | 9 | 6 | 8 |

B. MEN

| Age | Percentage of all men who were sexually experienced | | | Percentage of all men who had ever married* | | | Percentage of never-married men who were sexually experienced | | | Percentage of all men who were sexually experienced and had never married | | |
|-------|---|------|------|---|------|------|---|------|------|---|------|------|
| | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 |
| 15-17 | u | 29 | 27 | u | 1 | 0 | u | 28 | 27 | u | 28 | 26 |
| 18-19 | u | 71 | 59 | u | 25 | 17 | u | 61 | 50 | u | 46 | 41 |
| 20-24 | u | 89 | 88 | u | 55 | 45 | u | 75 | 77 | u | 33 | 42 |
| 25-29 | u | 98 | 98 | u | 83 | 83 | u | 86 | 89 | u | 15 | 15 |
| 30-34 | u | 100 | 100 | u | 97 | 96 | u | na | na | u | 4 | 4 |
| 35-39 | u | 99 | 99 | u | 97 | 96 | u | na | na | u | 2 | 4 |
| 40-44 | u | 99 | 100 | u | 99 | 96 | u | na | na | u | 1 | 4 |
| 45-49 | u | 98 | 100 | u | 97 | 97 | u | na | na | u | 1 | 4 |
| 15-19 | u | 48 | 38 | u | 11 | 7 | u | 41 | 34 | u | 36 | 32 |
| 20-29 | u | 93 | 93 | u | 69 | 64 | u | 78 | 79 | u | 24 | 28 |
| 30-49 | u | 99 | 100 | u | 97 | 96 | u | 77 | 94 | u | 2 | 4 |
| Total | u | 86 | 83 | u | 69 | 64 | u | 56 | 53 | u | 17 | 19 |

* Marriage is defined broadly and includes legal marriage and living together.

Source: Macro International, Inc and Uganda: Demographic and Health Surveys for 1988 (women only), 1995 and 2000.

Notes: u = not available; na = not shown because of small sample size.

Table 2. Among Ugandan women and men aged 15-49, percentage who were sexually experienced and percentage who had ever married, percentage of those who had never married who were sexually experienced and percentage of all women and men who were sexually experienced and had never married, by gender and age-group, Global Program for AIDS Surveys, 1989 and 1995.

A. WOMEN

| | Percentage of all women who were sexually experienced | | Percentage of all women who had ever married* | | Percentage of never-married women who were sexually experienced | | Percentage of all women who were sexually experienced and had never married | |
|-------|---|------|---|------|---|------|---|------|
| | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 |
| 15-17 | 58 | 38 | 28 | 29 | 42 | 12 | 30 | 9 |
| 18-19 | 84 | 74 | 67 | 62 | 54 | 31 | 17 | 12 |
| 20-24 | 95 | 94 | 85 | 87 | na | 56 | 10 | 7 |
| 25-29 | 99 | 98 | 96 | 95 | na | na | 3 | 3 |
| 30-34 | 100 | 100 | 96 | 99 | na | na | 4 | 1 |
| 35-39 | 99 | 99 | 98 | 98 | na | na | 2 | 2 |
| 40-44 | 99 | 100 | 99 | 98 | na | na | 0 | 2 |
| 45-49 | 100 | 100 | 100 | 100 | na | na | 0 | 0 |
| 15-19 | 70 | 54 | 46 | 44 | 45 | 18 | 24 | 10 |
| 20-29 | 97 | 96 | 90 | 91 | 73 | 55 | 7 | 5 |
| 30-49 | 100 | 100 | 98 | 99 | na | na | 2 | 1 |
| Total | 93 | 88 | 84 | 83 | 54 | 28 | 8 | 5 |

B. MEN

| Age | Percentage of all men who were sexually experienced | | Percentage of all men who had ever married* | | Percentage of never-married men who were sexually experienced | | Percentage of all men who were sexually experienced and had never married | |
|-------|---|------|---|------|---|------|---|------|
| | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 |
| 15-17 | 49 | 26 | 6 | 9 | 42 | 18 | 42 | 17 |
| 18-19 | 84 | 60 | 16 | 23 | 82 | 47 | 68 | 37 |
| 20-24 | 94 | 87 | 49 | 58 | 89 | 67 | 45 | 29 |
| 25-29 | 99 | 98 | 85 | 85 | 92 | 84 | 14 | 13 |
| 30-34 | 98 | 99 | 94 | 95 | na | na | 4 | 4 |
| 35-39 | 99 | 99 | 97 | 97 | na | na | 2 | 2 |
| 40-44 | 99 | 100 | 99 | 99 | na | na | 0 | 0 |
| 45-49 | 98 | 100 | 98 | 100 | na | na | 0 | 1 |
| 15-19 | 67 | 41 | 11 | 15 | 61 | 30 | 56 | 26 |
| 20-29 | 97 | 94 | 69 | 78 | 89 | 71 | 28 | 16 |
| 30-49 | 99 | 99 | 97 | 97 | na | na | 2 | 2 |
| Total | 93 | 86 | 72 | 73 | 74 | 45 | 21 | 13 |

* Marriage is defined broadly and includes legal marriage and living together.

Source: UNAIDS, Global Programme for Aids surveys 1989 and 1995.

Note: na=not shown because of small sample size.

Table 3. Percentage of sexually experienced Ugandan women and men who had never married and percentage who were currently sexually active, and percentage of all women and men who were currently sexually active, by gender and age group, DHS surveys, 1988-2000.

A. WOMEN

| Age | Percentage of sexually experienced women who had never-married | | | Percentage of sexually experienced women who were currently sexually active* | | | Percentage of all women who were currently sexually active* | | |
|-------|--|------|------|--|------|------|---|------|------|
| | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 |
| 15-17 | 46 | 26 | 59 | 77 | 82 | 68 | 39 | 37 | 23 |
| 18-19 | 23 | 14 | 25 | 87 | 90 | 86 | 71 | 74 | 66 |
| 20-24 | 13 | 9 | 12 | 89 | 86 | 89 | 85 | 83 | 85 |
| 25-29 | 4 | 5 | 5 | 92 | 91 | 88 | 91 | 90 | 88 |
| 30-34 | 2 | 2 | 2 | 91 | 87 | 88 | 90 | 87 | 87 |
| 35-39 | 0 | 1 | 2 | 89 | 87 | 88 | 89 | 87 | 87 |
| 40-44 | 0 | 0 | 1 | 84 | 77 | 81 | 83 | 77 | 81 |
| 45-49 | 1 | 1 | 1 | 80 | 74 | 74 | 80 | 74 | 74 |
| 15-19 | 35 | 19 | 38 | 82 | 86 | 79 | 51 | 53 | 41 |
| 20-29 | 9 | 7 | 9 | 90 | 88 | 89 | 87 | 86 | 86 |
| 30-49 | 1 | 1 | 1 | 87 | 83 | 84 | 87 | 83 | 84 |
| Total | 10 | 7 | 12 | 88 | 86 | 85 | 78 | 78 | 75 |

B. MEN

| Age | Percentage of sexually experienced men who had never-married | | | Percentage of sexually experienced men who were currently sexually active* | | | Percentage of all men who were currently sexually active* | | |
|-------|--|------|------|--|------|------|---|------|------|
| | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 |
| 15-17 | u | 97 | 99 | u | 33 | 44 | u | 10 | 12 |
| 18-19 | u | 65 | 71 | u | 58 | 72 | u | 41 | 42 |
| 20-24 | u | 38 | 48 | u | 79 | 75 | u | 70 | 66 |
| 25-29 | u | 15 | 15 | u | 84 | 90 | u | 82 | 88 |
| 30-34 | u | 4 | 5 | u | 93 | 93 | u | 93 | 93 |
| 35-39 | u | 2 | 4 | u | 91 | 90 | u | 90 | 90 |
| 40-44 | u | 1 | 4 | u | 90 | 94 | u | 90 | 94 |
| 45-49 | u | 1 | 3 | u | 86 | 91 | u | 83 | 91 |
| 15-19 | u | 76 | 83 | u | 49 | 60 | u | 23 | 23 |
| 20-29 | u | 26 | 31 | u | 82 | 83 | u | 76 | 77 |
| 30-49 | u | 2 | 4 | u | 90 | 92 | u | 90 | 92 |
| Total | u | 20 | 23 | u | 83 | 85 | u | 71 | 71 |

* Currently sexually active is defined as (a) currently married or (b) unmarried and had sex in the last three months.

Note: u = unavailable.

Table 4. Percentage of sexually experienced Ugandan women and men who had never married and percentage who were currently sexually active, and percentage of all women and men who were currently sexually active, by gender and age group, GPA surveys, 1989 and 1995.

A. WOMEN

| Age | Percentage of sexually experienced women who had never-married | | Percentage of sexually experienced women who were currently sexually active* | | Percentage of all women who were currently sexually active* | |
|-------|--|------|--|------|---|------|
| | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 |
| 15-17 | 52 | 25 | 66 | 75 | 38 | 29 |
| 18-19 | 20 | 16 | 84 | 84 | 72 | 62 |
| 20-24 | 11 | 8 | 86 | 90 | 82 | 86 |
| 25-29 | 3 | 3 | 89 | 91 | 88 | 89 |
| 30-34 | 4 | 1 | 85 | 91 | 85 | 90 |
| 35-39 | 2 | 2 | 79 | 87 | 79 | 87 |
| 40-44 | 0 | 2 | 71 | 82 | 70 | 82 |
| 45-49 | 0 | 0 | 70 | 83 | ns | 83 |
| 15-19 | 34 | 20 | 76 | 80 | 53 | 44 |
| 20-29 | 7 | 5 | 87 | 90 | 85 | 87 |
| 30-49 | 2 | 1 | 79 | 87 | 78 | 87 |
| Total | 9 | 5 | 82 | 87 | 76 | 77 |

B. MEN

| Age | Percentage of sexually experienced men who had never-married | | Percentage of sexually experienced men who were currently sexually active* | | Percentage of all men who were currently sexually active* | |
|-------|--|------|--|------|---|------|
| | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 |
| 15-17 | 89 | 61 | 53 | 38 | 23 | 10 |
| 18-19 | 80 | 59 | 50 | 50 | 42 | 31 |
| 20-24 | 47 | 27 | 68 | 81 | 64 | 73 |
| 25-29 | 12 | 9 | 87 | 90 | 86 | 89 |
| 30-34 | 4 | 3 | 89 | 97 | 88 | 96 |
| 35-39 | 3 | 1 | 89 | 94 | 88 | 93 |
| 40-44 | 0 | 1 | 90 | 98 | 89 | 98 |
| 45-49 | 0 | 0 | 88 | 94 | 87 | 94 |
| 15-19 | 82 | 60 | 51 | 46 | 33 | 20 |
| 20-29 | 29 | 17 | 77 | 86 | 75 | 81 |
| 30-49 | 2 | 1 | 89 | 96 | 81 | 95 |
| Total | 20 | 12 | 81 | 88 | 75 | 77 |

* Currently sexually active is defined as (a) currently married or (b) unmarried and had sex in the last four weeks.

Table 5. Among Ugandan women and men who (a) were married or unmarried, and sexually active in the past year; (b) married and (c) unmarried and sexually active in the past year, percentage who had two or more partners in a recent period* (the past six months and the past year), by gender and age-group, DHS surveys, 1995 and 2000.

A. Women

| Age | Of women who were married, or unmarried and sexually active in the past year, percent who had 2+ partners in a recent period | | Percentage of currently married women who had 2+ partners in a recent period | | Percentage of unmarried women who were sexually active in the past year who had 2+ partners in a recent period | |
|-------|--|-----------|--|-----------|--|-----------|
| | 6 Months | 12 Months | 6 Months | 12 Months | 6 Months | 12 Months |
| | 1995 | 2000 | 1995 | 2000 | 1995 | 2000 |
| 15-17 | 9 | 4 | 9 | 4 | 8 | 4 |
| 18-19 | 5 | 4 | 3 | 3 | 13 | 7 |
| 20-24 | 3 | 3 | 3 | 3 | 10 | 2 |
| 25-29 | 4 | 3 | 3 | 3 | 10 | 4 |
| 30-34 | 4 | 2 | 3 | 2 | 12 | 5 |
| 35-39 | 5 | 3 | 5 | 3 | 13 | 5 |
| 40-44 | 4 | 3 | 4 | 2 | 12 | 7 |
| 45-49 | 1 | 2 | 2 | 2 | 0 | 3 |
| 15-19 | 6 | 4 | 5 | 3 | 10 | 6 |
| 20-29 | 4 | 3 | 3 | 3 | 10 | 3 |
| 30-49 | 4 | 2 | 4 | 2 | 10 | 5 |
| Total | 4 | 3 | 4 | 3 | 10 | 4 |

B. Men

| Age | Of men who were married, or unmarried and sexually active in the past year, percent who had 2+ partners in a recent period | | Percentage of currently married men who had 2+ partners in a recent period | | Percentage of unmarried men who were sexually active in the past year who had 2+ partners in a recent period | |
|-------|--|-----------|--|-----------|--|-----------|
| | 6 Months | 12 Months | 6 Months | 12 Months | 6 Months | 12 Months |
| | 1995 | 2000 | 1995 | 2000 | 1995 | 2000 |
| 15-17 | 12 | 10 | na | na | 7 | 11 |
| 18-19 | 26 | 26 | 16 | 25 | 32 | 28 |
| 20-24 | 23 | 22 | 18 | 14 | 32 | 32 |
| 25-29 | 15 | 21 | 15 | 19 | 14 | 31 |
| 30-34 | 13 | 14 | 13 | 12 | na | 33 |
| 35-39 | 11 | 11 | 11 | 10 | na | na |
| 40-44 | 11 | 9 | 10 | 8 | na | na |
| 45-49 | 12 | 6 | 12 | 5 | na | na |
| 15-19 | 22 | 20 | 21 | 24 | 22 | 19 |
| 20-29 | 19 | 21 | 16 | 17 | 27 | 32 |
| 30-49 | 12 | 11 | 11 | 10 | 16 | 27 |
| Total | 16 | 16 | 13 | 13 | 24 | 27 |

*In the 1995 survey the question regarding sexual partners related to the past six month period. In the 2000 survey the questions referred to the past 12 months.

Note: na = not shown because of small sample size.

Table 6. Percentage of women and men who were married and had one or more non-regular sexual partners in the past year* or were unmarried and had 2 or more sexual partners in the past year; by age and marital status, GPA surveys, 1989 and 1995.

A. WOMEN

| Age | Among women who were sexually active in the past year, percent with multiple partners in the past year [†] | | | | | |
|-------|---|------|--|------|---|------|
| | Total | | Married with at least one non-regular partner* in the last 12 months | | Unmarried, with 2 or more sexual partners in the last 12 months | |
| | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 |
| 15-17 | 27 | 9 | 11 | 4 | 35 | 20 |
| 18-19 | 13 | 5 | 8 | 3 | 30 | 15 |
| 20-24 | 15 | 5 | 7 | 3 | 36 | 15 |
| 25-29 | 10 | 4 | 6 | 2 | 26 | 16 |
| 30-34 | 9 | 2 | 1 | 1 | 34 | 15 |
| 35-39 | 10 | 2 | 5 | 1 | na | na |
| 40-44 | 10 | 0 | 5 | 0 | na | na |
| 45-49 | 6 | 3 | 4 | 1 | na | na |
| 15-19 | 19 | 6 | 9 | 4 | 32 | 17 |
| 20-29 | 12 | 4 | 6 | 3 | 32 | 16 |
| 30-49 | 9 | 2 | 3 | 1 | 29 | 13 |
| Total | 12 | 3 | 5 | 2 | 31 | 15 |

B. Men

| Men Age | Among men who were sexually active in the past year, percent with multiple partners, in the past year [†] | | | | | |
|------------|--|------|--|------|---|------|
| | Total | | Married with at least one non-regular partner* in the last 12 months | | Unmarried, with 2 or more sexual partners in the last 12 months | |
| | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 |
| 15-17 | na | na | na | na | na | na |
| 18-19 | 59 | 17 | na | na | 63 | na |
| 20-24 | 47 | 14 | 25 | 9 | 63 | 26 |
| 25-29 | 34 | 13 | 26 | 11 | 52 | na |
| 30-34 | 28 | 14 | 21 | 13 | 56 | na |
| 35-39 | 26 | 9 | 23 | 9 | na | na |
| 40-44 | 25 | 5 | 23 | 4 | na | na |
| 45-49 | 26 | 4 | 18 | 4 | na | na |
| 15-19 | 63 | 20 | na | na | 66 | 35 |
| 20-29 | 40 | 13 | 25 | 10 | 59 | 28 |
| 30-49 | 26 | 9 | 22 | 8 | 53 | 16 |
| Total | 35 | 11 | 23 | 9 | 59 | 26 |

*For married, the measure is having one or more non-regular partners other than a spouse; for unmarried, it is the proportion who have two or more partners. This more restricted measure is presented because in 1989, the data obtained do not allow separation on spouses from other regular partners who are not spouses. For the married population, the only category of extramarital partner that could be separately identified and counted is the nonregular or casual partner. Thus, although all extramarital partners can be identified for 1995, the only comparable measure available for both survey years is the number of non-regular partners.

†The base population for all three panels (total, married or unmarried) is those who were sexually active in the past year.

Note: na = not shown because of small sample size.

Table 7. Percentage of sexually experienced Ugandan women who had ever used a condom; percentage of currently sexually active women currently using condoms for pregnancy prevention and percentage using condoms for any reason at last intercourse, by age group, DHS surveys, 1988-2000.

A. Women

| Age | Percentage of sexually experienced women who had ever used a condom | | | Percentage of currently sexually active* women currently using condoms for pregnancy prevention† | | | Percentage of currently sexually active* women who used a condom for any reason at last intercourse† | | |
|-------|---|------|------|--|------|------|--|------|------|
| | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 |
| 15-17 | 3 | 14 | 31 | 0 | 4 | 18 | u | 6 | 25 |
| 18-19 | 3 | 13 | 26 | 0 | 2 | 8 | u | 3 | 12 |
| 20-24 | 3 | 12 | 20 | 0 | 3 | 4 | u | 4 | 6 |
| 25-29 | 3 | 11 | 16 | 0 | 2 | 4 | u | 3 | 6 |
| 30-34 | 3 | 9 | 11 | 0 | 1 | 2 | u | 2 | 3 |
| 35-39 | 1 | 6 | 9 | 0 | 1 | 2 | u | 1 | 4 |
| 40-44 | 3 | 5 | 6 | 0 | 0 | 3 | u | 1 | 4 |
| 45-49 | 0 | 2 | 4 | 0 | 0 | 0 | u | 1 | 1 |
| 15-19 | 3 | 13 | 28 | 0 | 3 | 11 | u | 4 | 16 |
| 20-29 | 3 | 11 | 18 | 0 | 2 | 4 | u | 4 | 6 |
| 30-49 | 2 | 7 | 8 | 0 | 1 | 2 | u | 2 | 3 |
| Total | 3 | 10 | 15 | 0 | 2 | 4 | u | 3 | 6 |

* Currently sexually active is defined as (a) currently married or (b) unmarried and had sex in the last three months

† Use of condoms for pregnancy prevention comes from the series of questions asked in the section of the interview that addresses contraceptive knowledge and use. A second more inclusive measure of use of condoms was obtained in the 1995 and 2000 surveys only. Panel 3 shows results of this additional measure "The last time you had sexual intercourse was a condom used?"

Note: u = unavailable.

Table 8. Percentage of sexually experienced Ugandan men who had ever used a condom and percentage of men who were sexually active during the past year who used a condom at last intercourse, by age-group, DHS surveys, 1995 and 2000.

A. Men

| Age | Percentage of sexually experienced men who ever used a condom | | Percentage of men who were sexually active in the past year* who used a condom at last intercourse† | |
|--------------|---|-----------|---|-----------|
| | 1995 | 2000 | 1995 | 2000 |
| 15-17 | 25 | 42 | 16 | 55 |
| 18-19 | 38 | 46 | 20 | 33 |
| 20-24 | 44 | 62 | 23 | 31 |
| 25-29 | 28 | 49 | 6 | 14 |
| 30-34 | 23 | 39 | 5 | 8 |
| 35-39 | 20 | 30 | 4 | 7 |
| 40-44 | 14 | 21 | 2 | 5 |
| 45-49 | 16 | 15 | 2 | 5 |
| 15-19 | 34 | 44 | 19 | 41 |
| 20-29 | 35 | 55 | 15 | 22 |
| 30-49 | 19 | 29 | 4 | 7 |
| Total | 28 | 41 | 9 | 15 |

*Sexually active in the past year is defined as (a) currently married or (b) unmarried and had sex in the last 12 months.

†Information is available from a question on use of a condom at last intercourse in the past year: "The last time you had sexual intercourse was a condom used?"

Table 9. Percentage of Ugandan women currently using condoms for pregnancy prevention and percentage using condoms for any reason at last intercourse, by marital status, according to age-group, DHS surveys, 1988-2000.

| Age | Married | | | | | | Unmarried* | | | | | |
|-------|---|------|------|---|------|------|--|------|------|--|------|------|
| | Percent currently using condoms for pregnancy prevention† | | | Percent who used a condom for any reason at last intercourse† | | | Percentage of currently sexually active* women using condoms for pregnancy prevention† | | | Percentage of currently sexually active* women who used a condom for any reason at last intercourse† | | |
| | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 |
| 15-17 | 0 | 1 | 2 | u | 2 | 2 | 0 | 22 | 36 | u | 27 | 53 |
| 18-19 | 0 | 1 | 2 | u | 2 | 2 | 0 | 10 | 32 | u | 21 | 49 |
| 20-24 | 0 | 1 | 2 | u | 2 | 3 | 0 | 28 | 26 | u | 37 | 38 |
| 25-29 | 0 | 1 | 3 | u | 2 | 3 | 0 | 15 | 19 | u | 27 | 29 |
| 30-34 | 0 | 1 | 1 | u | 2 | 2 | 0 | 13 | 18 | u | 18 | 27 |
| 35-39 | 0 | 1 | 2 | u | 1 | 2 | 0 | na | 13 | u | na | 26 |
| 40-44 | 0 | 0 | 3 | u | 1 | 3 | 0 | na | 12 | u | 2 | 17 |
| 45-49 | 0 | 0 | 0 | u | 1 | 1 | 0 | na | 0 | u | 3 | 5 |
| 15-19 | 0 | 1 | 2 | u | 2 | 2 | 0 | 17 | 34 | u | 24 | 41 |
| 20-29 | 0 | 1 | 2 | u | 2 | 3 | 0 | 22 | 23 | u | 32 | 35 |
| 30-49 | 0 | 1 | 1 | u | 1 | 2 | 0 | 5 | 13 | u | 8 | 22 |
| Total | 0 | 1 | 2 | u | 2 | 3 | 0 | 16 | 24 | u | 23 | 37 |

* Includes those sexually active in past three months.

†Use of condoms for pregnancy prevention comes from the series of questions asked in the section of the interview that addresses contraceptive knowledge and use. A second more inclusive measure of use of condoms was obtained in the 1995 and 2000 surveys only. Panels 2 and 4 show results of this additional measure: "The last time you had sexual intercourse was a condom used?"

Notes: na = not shown because of small sample size.

Table 10. Percentage of Ugandan men who used a condom at last intercourse in the past 12 months*, by marital status, according to age-group, DHS surveys, 1995 and 2000.

| Age | Married | | Unmarried† | |
|-------|---------|------|------------|------|
| | 1995 | 2000 | 1995 | 2000 |
| 15-17 | na | na | 17 | 56 |
| 18-19 | 7 | 10 | 29 | 46 |
| 20-24 | 4 | 7 | 57 | 65 |
| 25-29 | 2 | 4 | 32 | 71 |
| 30-34 | 2 | 4 | 45 | 42 |
| 35-39 | 3 | 6 | 18 | 41 |
| 40-44 | 2 | 4 | 4 | 7 |
| 45-49 | 0 | 3 | 34 | 50 |
| 15-19 | 7 | 10 | 24 | 51 |
| 20-29 | 3 | 5 | 50 | 67 |
| 30-49 | 2 | 4 | 29 | 36 |
| Total | 3 | 5 | 39 | 57 |

*Information is available from a question on use of a condom at last intercourse in the past year: "The last time you had sexual intercourse was a condom used?"

†Includes those sexually active in past year.

Note: na = not shown because of small sample size.

Table 11. Percentage of currently sexually active* women and men who used condom in the last four weeks (1989) and who used condom at last intercourse in the last four weeks (1995), by age and marital status, Global Program for AIDS (GPA) surveys, Uganda.

A. Women

| Percent of women who used a condom in the last four weeks [†] | | | | | | |
|--|-------|------|--|------|--|------|
| Women Age | Total | | Married and sexually active in the last 4 weeks | | Unmarried and sexually active in last 4 weeks | |
| | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 |
| 15-17 | 0 | 15 | 0 | 9 | 0 | 45 |
| 18-19 | 0 | 14 | 0 | 12 | 1 | 25 |
| 20-24 | 0 | 10 | 0 | 8 | 0 | 14 |
| 25-29 | 0 | 6 | 0 | 6 | 0 | 7 |
| 30-34 | 0 | 8 | 0 | 9 | 0 | 8 |
| 35-39 | 0 | 5 | 0 | 5 | na | na |
| 40-44 | 0 | 6 | 0 | 6 | na | na |
| 45-49 | 0 | 6 | 0 | 6 | na | na |
| 15-19 | 0 | 14 | 0 | 11 | 0 | 38 |
| 20-29 | 0 | 8 | 0 | 7 | 0 | 11 |
| 30-49 | 0 | 7 | 0 | 7 | 0 | 8 |
| Total | 0 | 8 | 0 | 7 | 1 | 14 |

B. Men

| Percent of men who used a condom in the last 4 weeks [†] | | | | | | |
|---|-------|------|--|------|--|------|
| Men Age | Total | | Married and sexually active in the last 4 weeks | | Unmarried and sexually active in last 4 weeks | |
| | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 |
| 15-17 | 0 | 23 | na | na | 0 | 31 |
| 18-19 | 7 | 23 | na | na | 5 | 48 |
| 20-24 | 1 | 15 | 0 | 11 | 1 | 18 |
| 25-29 | 2 | 13 | 0 | 10 | 6 | 31 |
| 30-34 | 0 | 12 | 0 | 11 | 0 | 14 |
| 35-39 | 1 | 9 | 1 | 10 | 0 | 6 |
| 40-44 | 0 | 6 | 0 | 6 | na | na |
| 45-49 | 0 | 6 | 0 | 4 | na | na |
| 15-19 | 3 | 23 | na | na | 3 | 40 |
| 20-29 | 1 | 14 | 0 | 11 | 3 | 22 |
| 30-49 | 0 | 9 | 0 | 9 | 0 | 12 |
| Total | 1 | 11 | 0 | 9 | 2 | 22 |

*Currently sexually active is defined, for both married and unmarried respondents, as having had sexual intercourse in the last four weeks.

[†]Information is available from questions on condom use in the last four weeks. For 1989: Did you use a condom in the last four weeks? 1995: At your last sexual intercourse was a condom used?

Note: na=not shown because of small sample size.

Appendix Table 1. Unweighted number of respondents by gender, marital status and sexual activity status, according to age-groups, DHS surveys, 1988-2000.

A. WOMEN

| Age at survey | Total Number | | | Number currently married | | | Number currently unmarried | | | Number unmarried and sexually active during past year | | | Number unmarried and sexually active in past three months | | |
|---------------|--------------|-------|-------|--------------------------|-------|-------|----------------------------|-------|-------|---|------|-------|---|------|------|
| | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 |
| 15-17 | 706 | 936 | 986 | 145 | 259 | 110 | 561 | 677 | 876 | 157 | 107 | 195 | 115 | 65 | 108 |
| 18-19 | 493 | 688 | 701 | 256 | 428 | 347 | 237 | 260 | 354 | 99 | 78 | 168 | 78 | 56 | 104 |
| 20-24 | 982 | 1,567 | 1,542 | 682 | 1,174 | 1,132 | 300 | 393 | 410 | 185 | 150 | 278 | 133 | 101 | 162 |
| 25-29 | 877 | 1,323 | 1,326 | 701 | 1,065 | 1,034 | 176 | 258 | 292 | 111 | 121 | 205 | 86 | 88 | 119 |
| 30-34 | 601 | 987 | 955 | 480 | 799 | 759 | 121 | 188 | 196 | 79 | 64 | 114 | 57 | 42 | 56 |
| 35-39 | 452 | 743 | 783 | 350 | 599 | 609 | 102 | 144 | 174 | 63 | 37 | 99 | 49 | 28 | 54 |
| 40-44 | 332 | 475 | 547 | 231 | 336 | 405 | 101 | 139 | 142 | 49 | 27 | 57 | 35 | 19 | 29 |
| 45-49 | 287 | 351 | 406 | 210 | 243 | 279 | 77 | 108 | 127 | 27 | 18 | 33 | 18 | 14 | 15 |
| 15-19 | 1,199 | 1,624 | 1,687 | 401 | 687 | 457 | 798 | 937 | 1,230 | 256 | 185 | 363 | 193 | 121 | 212 |
| 20-29 | 1,859 | 2,890 | 2,868 | 1,383 | 2,239 | 2,166 | 476 | 651 | 702 | 296 | 271 | 483 | 219 | 189 | 281 |
| 30-49 | 1,672 | 2,556 | 2,691 | 1,271 | 1,977 | 2,052 | 401 | 579 | 639 | 218 | 146 | 303 | 159 | 103 | 154 |
| Total | 4,730 | 7,070 | 7,246 | 3,055 | 4,903 | 4,675 | 1,675 | 2,167 | 2,571 | 770 | 602 | 1,149 | 571 | 413 | 647 |

B. MEN

| Age at survey | Total Number | | | Number currently married | | | Number currently unmarried | | | Number unmarried and sexually active during past year | | | Number unmarried and sexually active in past three months | | |
|---------------|--------------|-------|-------|--------------------------|-------|-------|----------------------------|------|------|---|------|------|---|------|------|
| | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 | 1988 | 1995 | 2000 |
| 15-17 | u | 205 | 277 | u | 2 | 1 | u | 203 | 276 | u | 40 | 56 | u | 17 | 32 |
| 18-19 | u | 170 | 163 | u | 27 | 24 | u | 143 | 139 | u | 67 | 55 | u | 41 | 45 |
| 20-24 | u | 379 | 337 | u | 176 | 140 | u | 203 | 197 | u | 130 | 128 | u | 87 | 81 |
| 25-29 | u | 381 | 315 | u | 283 | 239 | u | 98 | 76 | u | 50 | 52 | u | 36 | 33 |
| 30-34 | u | 256 | 283 | u | 223 | 245 | u | 33 | 38 | u | 23 | 31 | u | 15 | 25 |
| 35-39 | u | 249 | 225 | u | 219 | 197 | u | 30 | 28 | u | 15 | 10 | u | 8 | 4 |
| 40-44 | u | 158 | 166 | u | 139 | 147 | u | 19 | 19 | u | 8 | 13 | u | 2 | 8 |
| 45-49 | u | 109 | 117 | u | 94 | 104 | u | 15 | 13 | u | 3 | 5 | u | 2 | 3 |
| 15-19 | u | 375 | 440 | u | 29 | 25 | u | 346 | 415 | u | 107 | 111 | u | 58 | 77 |
| 20-29 | u | 760 | 652 | u | 459 | 379 | u | 301 | 273 | u | 180 | 180 | u | 123 | 114 |
| 30-49 | u | 772 | 791 | u | 675 | 693 | u | 97 | 98 | u | 49 | 59 | u | 27 | 40 |
| Total | u | 1,907 | 1,883 | u | 1,163 | 1,097 | u | 744 | 786 | u | 336 | 350 | u | 208 | 231 |

Note: u = unavailable.

Appendix Table 2. Unweighted number of respondents by gender, marital status and sexual activity status, according to age-groups, GPA surveys, 1989 and 1995.

A. Women

| Age at survey | Total Number | | Number currently married or in union | | Number currently unmarried | | Number not in a union and sexually active during past year | | Number not in a union and sexually active in past 4 weeks | |
|---------------|--------------|-------|--------------------------------------|-------|----------------------------|-------|--|------|---|------|
| | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 |
| 15-17 | 148 | 429 | 28 | 82 | 120 | 347 | 54 | 33 | 29 | 22 |
| 18-19 | 130 | 318 | 68 | 161 | 62 | 157 | 38 | 33 | 23 | 21 |
| 20-24 | 302 | 668 | 203 | 470 | 99 | 198 | 77 | 96 | 47 | 75 |
| 25-29 | 321 | 560 | 233 | 441 | 88 | 119 | 68 | 63 | 48 | 47 |
| 30-34 | 207 | 465 | 139 | 369 | 68 | 96 | 48 | 49 | 31 | 46 |
| 35-39 | 135 | 341 | 89 | 275 | 46 | 66 | 33 | 22 | 17 | 15 |
| 40-44 | 92 | 216 | 50 | 161 | 42 | 55 | 20 | 13 | 12 | 11 |
| 45-49 | 63 | 150 | 37 | 109 | 26 | 41 | 10 | 10 | 6 | 9 |
| 15-19 | 278 | 747 | 96 | 243 | 182 | 504 | 92 | 66 | 52 | 43 |
| 20-29 | 623 | 1,228 | 436 | 911 | 187 | 317 | 145 | 159 | 95 | 122 |
| 30-49 | 497 | 1,172 | 315 | 914 | 182 | 258 | 111 | 94 | 66 | 81 |
| Total | 1,398 | 3,147 | 847 | 2,068 | 551 | 1,079 | 348 | 319 | 213 | 246 |

B. Men

| Age at survey | Total Number | | Number currently married or in union | | Number currently unmarried | | Number currently unmarried and sexually active during past year | | Number currently unmarried and sexually active in past 4 weeks | |
|---------------|--------------|-------|--------------------------------------|-------|----------------------------|------|---|------|--|------|
| | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 | 1989 | 1995 |
| 15-17 | 99 | 241 | 1 | 9 | 98 | 232 | 36 | 25 | 22 | 18 |
| 18-19 | 112 | 185 | 8 | 34 | 104 | 151 | 73 | 33 | 38 | 22 |
| 20-24 | 304 | 417 | 95 | 213 | 209 | 204 | 147 | 96 | 92 | 73 |
| 25-29 | 291 | 437 | 186 | 334 | 105 | 103 | 88 | 56 | 56 | 47 |
| 30-34 | 239 | 335 | 175 | 283 | 64 | 52 | 51 | 36 | 38 | 33 |
| 35-39 | 174 | 291 | 139 | 256 | 35 | 35 | 25 | 20 | 14 | 17 |
| 40-44 | 145 | 239 | 122 | 214 | 23 | 25 | 15 | 17 | 6 | 16 |
| 45-49 | 113 | 194 | 90 | 175 | 23 | 19 | 16 | 6 | 8 | 5 |
| 15-19 | 211 | 426 | 9 | 43 | 202 | 383 | 109 | 58 | 60 | 40 |
| 20-29 | 595 | 854 | 281 | 547 | 314 | 307 | 235 | 152 | 148 | 120 |
| 30-49 | 671 | 1,059 | 526 | 928 | 145 | 131 | 107 | 79 | 66 | 71 |
| Total | 1,477 | 2,339 | 816 | 1,518 | 661 | 821 | 451 | 289 | 274 | 231 |