

The correlates of safe sex practices among Rwandan youth: a positive deviance approach

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This paper presents the results of a 2001 sample survey and uses an ideation model to identify the factors affecting primary sexual abstinence and condom use among Rwandan youth. The findings showed that urban residence and age negatively influence primary sexual abstinence and positively affect condom use. Living within the same household as the father tends to protect girls from early sexual experimentation but has no noticeable effect on boys. Moslems are considerably less likely than Christians to report primary sexual abstinence. The use of alcohol tends to be negatively associated with sexual abstinence. The ideational factors that are significant for primary sexual abstinence are perceptions about the sexual behaviours of peers, perceived self-efficacy to refuse sex with someone truly loved, perceived self-efficacy to refuse sex with someone known for more than three months, self-esteem and attitudes toward premarital sex. As for condom use, the ideational variables with significant independent effects on the behavior are: discussion of HIV/AIDS with sexual partner, and to a lesser extent, the perceived self-efficacy to use condoms, and discussion of condom use with the sex partner. The programmatic and policy implications of the results are discussed.

Key words: adolescent sexuality, ideation, positive deviance, condom use

Background

With a national infection rate of about 13%, Rwanda is one of the countries worst hit by the HIV/AIDS epidemic in Africa. AIDS is now among the top three leading causes of death in the country. A closer look at the infection rates from selected segments of the population reveal an even more disturbing picture. HIV prevalence is estimated at 10% among sexually active adolescents. Recent sero-prevalence data indicate that infection rates are higher among female youth than among their male counterparts. For example, UNAIDS estimates for 1999 show that between 9% and 12% of female youth aged 15–24 years are seropositive while to only 3.5% to 7% of male youth are seropositive (UNAIDS, 2000). With an estimated 70% of the population under 25 years of age, the potential impact of HIV/AIDS on the future of Rwanda is staggering.

Many Rwandan youth engage in sexual behaviours that expose them to the risk of HIV infection. Existing literature shows evidence of early sexual experimentation coupled with limited condom use among both boys and girls. According to the results of the 2000 Behavioural Surveillance Survey (BSS), about 29% of male youth aged 15–19 years and more than 12% of their female counterparts have had sex (FHI/IMPACT, 2000). Other data have shown that among the sexually active, about 7 out of 10 boys and 4 out of 5 girls are already sexually initiated by age

15 (Calvès, 1998). This study also revealed that only about 16% of sexually active male youth aged 15–19 years and 12% of their female counterparts have ever used a condom. Against this background of prevalent risky sexual behaviours, the Johns Hopkins University Center for Communication Programs (JHU/CCP), with funding from the United States Agency for International Development (USAID) collaborated with the Rwanda National Youth Council to conduct a survey among Rwandan youth to explore the factors associated with positive deviance in sexual behaviours.

What do we mean by positive deviance? Viewing deviance from the normative perspective, positive deviance can be defined as a 'behaviour labeled in a superior sense due to its departure from the normative' (Heckert, 1997). In other words, it is a deviation from the norm that results in a positive outcome. If we think of deviance as a continuous distribution of behaviours then at the negative end would be crimes and other socially unacceptable acts, and at the positive end would be those positive and rare attributes such as altruism, charisma, innovation, supra-conformity, and giftedness (Wilkins, 1965; Heckert, 1997). A huge segment of the continuum would be occupied by normal behaviours. Viewed from the societal reactive perspective, positive deviance can be defined as a behaviour that is positively

evaluated and sanctioned. The eminent sociologist, Pitirim Sorokin (1950), was the first to suggest the need for the study of positive deviance although he did not use that term. He criticised the predominantly negative orientation of the discipline of Sociology in the West and highlighted the importance of studying the positive to understand the negative. Contending that by definition deviance is a negative departure from societal norms, many sociologists have challenged the validity of positive deviance and some have even referred to it as an oxymoron (e.g. Sagarin, 1985; Clinard and Meier, 1989; Goode, 1991; 1994). Despite the criticisms, positive deviance has emerged as a sociological construct even if only a marginal one. However, Western Sociology continues to be predominantly concerned with negative deviance and today we know more about negative deviance than we do about positive deviance.

Positive deviance is a double-faced phenomenon in that the behaviour could cause negative reactions. Because they are different from others, positive deviants may be negatively stereotyped by their peers. A typical case in point is giftedness, which could be seen as positive deviance from the standards for level of intelligence in a society. Huryn (1986) found that fellow students often negatively perceived gifted students because they saw them as opinionated, unattractive, and anti-social. As a result, the gifted students have come to incorporate some of this stereotypical imagery into their self-image despite the fact that the students still recognised that giftedness is highly valued by their teachers and parents. In other words, positive deviants may face peculiar challenges as a result of their different behaviour pattern.

This paper employs a positive deviance approach to understanding the correlates of sexual behaviours among youth. The premise is that the solutions to prevailing problems within any human organisation already exist within it. Advocates of the positive deviance approach believe that a thorough understanding of the positive is necessary to address the negative successfully. In Rwanda, like in many African countries, group norms favor early sexual experimentation and multiple sexual partners. It remains nonetheless true that from the cultural and societal point of view, the idealised behaviour for boys and girls is to delay sexual initiation, and once sexual activity has commenced to stick to one partner. With the increasing spread of HIV/AIDS and given the fact that the infection has no known cure, efforts aimed at preventing the infection are critical. Sexual abstinence and consistent use of condoms are the only sure ways to prevent HIV infection.

In every community, there are individuals who, while sharing the same resource base as their peers, nonetheless exhibit the idealised behaviour. These are the positive deviants. In the case of youth sexual behaviours, the positive deviants are those who are abstaining or are consistently using condoms for premarital or extra-marital sex. Identifying these positive deviants and exploring the factors correlated with deviant behaviour should provide useful clues on the existing local solutions to unsafe sexual practices among youth. In this paper, the two indicators of positive deviance that will be explored are primary sexual abstinence and condom use during the last sexual intercourse. It

is expected that the findings from the analyses will serve as a basis for developing appropriate interventions to discourage unsafe sex practices among youth.

Theoretical framework

Analysis of the correlates of positive sexual deviance will be done against the background of the ideation theoretical framework. Ideation denotes ways of thinking that can be diffused through communication and social interactions. As an explanation of behaviour change, ideation has its genesis in demographic literature where it first appears in the 1980s as an alternative to the classical demographic transition theory (Lesthaeghe, 1983; Cleland, 1985; Cleland & Wilson, 1987). Whereas the classical demographic transition theory emphasises structural economic changes, the ideation theory of fertility transition stresses the role of culture and attributes fertility decline to the diffusion of new ideas and practices. Specifically, the ideation theory links behaviour change to increased individuation and secularisation. The process of secularisation and individuation is characterised by greater leaning toward postmaterialism and an increased articulation of what Maslow (1954) called the 'higher order needs' — self-fulfillment, freedom of choice, self-reliance, independence, etc. (Lesthaeghe, 1983; Lesthaeghe & Surkyn, 1988).

According to the proponents of the ideation model, change in value orientations is transmitted through a variety of channels, including intergenerationally through the child-rearing process and intragenerationally through the mass media and social interactions. Some theorists have emphasised the role of the elite group in the ideational diffusion process (Livi-Bacci, 1986; Rogers, 1995). This elite could be those who, by virtue of the wealth they possess, the power they wield or the privileges they have, are high up in the social stratification scale. The innovative elite could also be an educational elite, who though not wealthy, is considered knowledgeable in the society. New behaviours spread down the social stratification scale to the less educated through imitation (Lesthaeghe, 1998; Pollard & Wu, 1998).

While the concept of ideation as an explanation of behaviour change may appear straightforward, the difficulty lies in its measurement. Much of the existing literature in support of the explanatory role of ideation in behaviour change has been descriptive. Those who have attempted to explore the role of ideation empirically have used a variety of indicators to measure the concept. Some of these indicators are designed to reflect the two dimensions of ideational change: secularisation and individuation. The indicators include religious affiliation (Pollard & Wu, 1998), religious service attendance (Simons, 1986a; Lesthaeghe & Surkyn, 1988), place of residence (Pollard and Wu, 1998), beliefs in traditional religious constructs (Lesthaeghe & Surkyn, 1988), indicators of national pride (Simons, 1986a; 1986b), and permissiveness of uncivil behaviour (Lesthaeghe & Meekers, 1986; Harding, Phillips & Fogarty, 1986). Other indicators that have been used in literature include acceptance of institutional regulation of individual behaviour, postmaterial political values, and adherence to traditional views on marriage and family (Lesthaeghe, 1983; Pollard & Wu, 1998).

Kincaid (2000a; 2000b) was one of the first to suggest a theoretical model linking ideation to reproductive health behaviour and providing a set of indicators for measuring the concept. Building on the Steps to Behaviour Change model (Plotrow, Kincaid, Rimon & Rinehart, 1997), a staged model derived from the diffusion of innovations theory, Kincaid (2000a; 2000b) proposed a predictive model that specifically explores the impact of communication on reproductive health behaviour while highlighting the intermediate role of ideation. The 'model of strategic communication and behaviour change' proposed by Kincaid (2000a; 2000b) articulates the cognitive, emotional and social interactions dimensions of ideation and includes a set of variables that can be used to gauge each dimension. A few studies have applied the ideation model to analyse variations in contraceptive use and other reproductive health behaviours. For example, Kincaid (2000a) used the model to analyse the links between social networks and contraceptive use in Bangladesh. Babalola, Vondrasek, Brown & Traore (2001) also used it to analyse recent changes in contraceptive use in Cameroon.

The ideation model that will serve as the basis for identifying the correlates of positive deviance in this paper draws on the model proposed by Kincaid and takes into consideration the cognitive, emotional and social interactions dimensions of ideation. The variables used to measure ideation differ by the type of positive deviance and are based on available theoretical and empirical evidence of the factors affecting youth sexual behaviours. The ideational variables explored are the following:

Primary sexual abstinence

Self-esteem

Self-esteem, a commonly used construct within psychology and in popular language, is included in the models predicting primary sexual abstinence and condom use. Rosenberg (1965) described self-esteem as a self-reflective attitude indicating the extent to which an individual likes or approves of himself. Evidence relating self-esteem to specific health behaviours abounds in public health and demographic literature although the findings have not been consistent. A number of studies have found that low self-esteem is associated with high-risk sexual and social behaviours (Young 1989; Kissman, 1990; Smith & Pike, 1993; Morris, Young & Jones, 2000). On the other hand, a few studies have documented a negative relationship between self-esteem and health behaviours. For example, Cole and Slocumb (1995) and Abood and Conway (1992) found that youth with high self-esteem were more likely to practice risky sexual behaviours.

Perceived social support for premarital sexual abstinence

Social norms have been theoretically and empirically demonstrated to be a key determinant of health behaviours. For example, social norms are one of the key constructs in the Theory of Reasoned Action (Ajzen & Fishbein, 1980; Fishbein, Middlestadt & Hitchcock, 1994). The hypothesis about the role of social norms is that the more favorable a person perceives other people's opinions regarding a specific behaviour to be, the more likely the person is to adopt the behaviour.

Perceptions about peer sexual behaviour

The relationship between perceived peer behaviour and sexual behaviour of youth has been widely documented. As pointed out by Jaccard (1999), perceived peer behaviour is not always synonymous with actual peer behaviour. This is because perceived peer behaviour is often biased by personal behaviour. Another reason for the disparity between perceived and actual peer behaviour is that youth often overestimate what their peers are doing (Steinberg, 1991). However, one study that investigated the influence of perceived peer behaviour versus actual peer behaviour on youth risk-taking found that perceived peer behaviour is a stronger determinant (Iannotti & Bush, 1992). It is not clear whether the relationship between perceived peer behaviour and adolescent risk taking is due to selection (adolescents choosing their friends on the basis of their own behaviours) or socialisation (adolescents adopting the traits of their risk-taking peers). Nonetheless, a strong relationship has been found between the two variables for a variety of health behaviours. For example, research findings on the correlates of substance use among adolescents have shown that what adolescents do is closely related to what they perceive their friends are doing (Stanton & Silva, 1992; Stacy, Newcomb & Bentler, 1993). Many studies have also documented the predictive role of perceived peer behaviour on early sexual experimentation and risky sexual behaviours (Alexander & Hickner, 1997; Bearman & Bruckner, 1999; Miller & Benson, 2001).

Attitudes towards premarital sex

The extent to which adolescents are tolerant of premarital sex can be expected to influence their premarital sexual behaviour.

Measures of perceived self-efficacy to refuse sex

Defined as the confidence a person feels about performing a behaviour, perceived self-efficacy can be considered an emotional construct. Perceived self-efficacy to implement a recommended response is recognised in many behaviour change models to be a strong determinant of behaviour. The key models used to explain health-related behaviours — the Health Belief Model (Becker, 1974; Montgomery, Joseph, Becker, Ostrow, Kessler & Kirscht, 1989; Rosenstock, Strecher & Becker, 1994), the Theory of Planned Behaviour (Ajzen, 1991; Armitage & Conner, 1999) the Social Cognitive Theory (Bandura, 1977; 1991; 1992) and the Extended Parallel Process Model (Witte, 1992; 1998; Roberto, Meyer, Johnson & Atkin, 2000) include self-efficacy as a key determinant of behaviour. Empirical evidence also abounds in support of the predictive capacity of this construct with respect to the practice of health behaviour (see for example Bandura, 1989; 1994; Schwarzer and Fuchs, 1995; Carvajal, Parcel, Basen-Enquist, Banspach, Coyle & Kirby, 1999).

Condom use

Self-esteem

The concept is discussed above

Knowledge of a condom source

There is considerable empirical evidence that this cognitive

ideational variable correlates positively with condom use (Wilson, Lavelle & Hood, 1990; Lule & Gruer, 1992; Anderson, Brackbill & Mosher, 1996; Eckard, 1997)

Knowledge about HIV/AIDS

Knowledge about HIV/AIDS can be expected to influence HIV risk behaviour including condom use.

Perceived attitude of best friend towards condom use

This is a cognitive variable used as a proxy for perceived peer attitudes toward condom use.

Perceived self-efficacy to use a condom every time

This variable is defined as the level of confidence in one's capability to use a condom for every sexual intercourse. It is the only emotional variable included in the model estimating condom use.

Discussion of condom use with sex partner

This is one of the variables used to measure the social interactions dimension of ideation. Discussion of a prescribed behaviour has been recognised in health literature as a precursor to behaviour change (Piotrow *et al.*, 1997).

Personal advocacy for condom use

The Steps to Behaviour Change model (Piotrow *et al.*, 1997) recognises personal advocacy in favour of a behaviour as an important precursor toward adopting the behaviour.

Discussion about AIDS with sex partner

This is another variable used to measure the social interactions dimension of ideation.

Data

The data analysed in this paper derive from a sample survey conducted in May 2001 among Rwandan youth in four provinces — Kigali Ville, Butare, Kibuye and Umutara. Focusing on male and female youth aged 15–24 years, the survey involved interviewing a random sample of youth on their sex-related attitudes and behaviour, self-concept, HIV/AIDS knowledge and attitudes, substance use, and media exposure. Having previously determined the sample size required for valid inferences based on the estimated proportion of sexually active youth in Rwanda, the respondents were selected through a multi-stage sampling procedure. In the first stage, a number of enumeration areas (EAs) proportionate to the total number of households in the province¹ were selected from each study province. In the second stage, a number of households proportionate to the total number of households in the EA were selected. In the selected households, field workers listed all the youth between ages 15 and 24 years and randomly selected one of them using the ballot method. Interviewers were instructed to make up to three visits to a selected household in case a person selected for interview was not available during the first two visits. Overall, 96.2% of the persons initially selected participated in the survey, 2.4% refused or were forbidden by parents or guardians to participate in the survey, while 1.4% were absent. A total of 1 327 persons were successfully interviewed. The survey fol-

lowed standard ethical guidelines. Verbal consent was obtained from the respondents prior to interviewing them. Moreover, respondents' confidentiality is protected by: face-to-face private interviews with no third party, appropriate training for interviewers, adequate field supervision, limited access to completed questionnaires and no individual identifiers in the electronic data set.

Measurement and methods

Two dependent variables are examined in this paper: primary sexual abstinence and condom use during the last sexual intercourse. The main independent variables are the ideation variables described in the previous section. They are measured as described below:

Self-esteem

For the assessment of self-esteem in this study, the Rosenberg Self-esteem Scale (RSES; Rosenberg, 1965) is used. The RSES contains five positive and five negative statements reflecting perceptions about the self. Respondents were expected to answer in a four-point Likert-type scale ranging from 'strongly disagree' to 'strongly agree'. For consistency, the negative statements are reversed scored so that higher scores indicate higher levels of self-esteem. The 10 items have an alpha score² for scale reliability of 0.71 and the measure of self-esteem is a factor score³ derived from the items. The hypothesis for this variable is that self-esteem will be associated (in some way) with sexual behaviours.

Perceived social support for premarital sexual abstinence

Questions about the perceived support of important referents (including family members, best friends, religious leader and teacher) for sexual abstinence were included in the questionnaire. The nine items (referents) designed to measure perceived social norms about premarital sexual abstinence have an alpha score for scale reliability of 0.75.

Perceptions about peer sexual behaviour

This is measured in terms of the perceived level of sexual activity among friends. Specifically, respondents had to state if they believed that all, most, some or none of their friends are having sex.

Attitudes towards premarital sex

Questions about the ideal timing of first sex for boys and for girls were included in the questionnaire. The proportion that stated that boys and girls should wait until marriage to experience sex is used as a measure of attitudes towards premarital sex.

Measures of perceived self-efficacy to refuse sex

Defined as the confidence a person feels about performing a behaviour, perceived self-efficacy can be considered an emotional construct. The model includes three indicators measuring the perceived self-efficacy to refuse sex under specific circumstances: with someone known for more than three months, with someone the respondent truly cares for, and at anytime.

Knowledge of a condom source

Respondents were asked if they knew where to obtain a condom.

Knowledge about HIV/AIDS

An indicator of HIV/AIDS knowledge was computed based on responses to a number of knowledge items including knowing that: condom helps to reduce the risk of HIV infection, AIDS has no known cure, a person can get HIV at first sex, one cannot determine that a person is HIV positive from physical appearance, an HIV-positive person is not ill all the time, HIV can be transmitted from mother to child, and the last item being that the respondent knows a person living with HIV/AIDS. These items have an alpha score of 0.70. The hypothesis is that the higher the level of HIV knowledge, the more likely it is that a person will use a condom.

Perceived attitude of best friend towards condom use

The perceived attitude of the best friend towards condom use is included in the estimated model as a proxy for perceived peer attitude. It is expected that perceived favorable attitude of the best friend towards condom use will increase the chances of condom use.

Perceived self-efficacy to use a condom every time

It is expected that the higher the perceived self-efficacy the more likely it is that a person uses a condom.

Discussion of condom use with sex partner

This variable is introduced as a dichotomous variable taking the value of 1 if the respondent reported discussing condom use with sex partner during the last 12 months or 0 if not. The hypothesis is that prior discussion of condom use with sex partner will be associated with increased use of the method.

Personal advocacy for condom use

Against the background of the Steps to Behaviour Change model, this variable is included in the estimated model with the assumption that those who have advised others to use a condom will be more likely than others to practice the behaviour.

Discussion about AIDS with sex partner

It is expected that discussion about AIDS with a sex partner will lead to a greater awareness about risk and to increased use of condom.

In addition to the ideational variables, the estimated models include socio-demographic variables theoretically and empirically demonstrated to influence behaviours. The primary sexual abstinence model contains the following socio-demographic variables: age, living arrangements, religion, in-school status, place of residence and use of alcohol. The condom use models assess the net effects of the following socio-demographic variables: age, gender, religion, literacy, place of residence, relationship with most recent sex partner and living arrangements.

The analytic methods employed in this paper include both bivariate and multivariate procedures. Initially, the prevalence of each positive deviant behaviour among the

respondents is examined. Subsequently, the ideation model described above is applied to identify the net effects of the independent variables. Finally, the implications of the findings for programme, policy and further research are discussed.

Findings***Primary sexual abstinence and its correlates***

The focus of this paper is on primary sexual abstinence, therefore the discussion in this section will center on never-married youth. Overall, about 26% of the youth interviewed reported that they had ever had sex. Boys (34.4%) are more likely than girls (19.4%) to have ever had sex (Table 1). The pattern of sexual activity indicated by these results is comparable to what other recent studies in Rwanda found. For example, the 2000 Rwanda Behavioural Surveillance Survey (BSS) found that 29% of unmarried boys aged 15–19 years and 12% of their female counterparts were sexually active (FHI/IMPACT, 2000). The median age at first sex is surprisingly lower for boys than for girls (Table 1). A similar trend was reported in the BSS data.

Let us now examine the correlates of primary sexual abstinence. The term primary sexual abstinence is used in this paper to describe the absence of the first sexual intercourse. To identify the socio-demographic and ideational correlates of primary sexual abstinence, various logistic models relating the behavioural indicator to a number of factors susceptible to influence it were estimated. The analyses were performed separately for boys and for girls as it can easily be argued that the factors influencing the timing of first sex are different for boys compared with girls. The results, which are provided in Table 2, indicate that both socio-demographic and ideational variables are associated with differences in the prevalence of premarital sex.

Boys

The results reported under Model 1 of Table 2 show that socio-demographic variables alone account for 13.9% of the variance in primary sexual abstinence. The model fits relatively well as evidenced in the Hosmer-Lemeshow statistics, and succeeded in correctly classifying a substantial proportion of the cases. Looking at the pattern of relationships, the net effects of some socio-demographic variables are conspicuous. One variable with considerable effects on the practice of sexual abstinence is age: the older the youth the less likely it is that he will be practicing abstinence. An

Table 1: Proportion of never-married youth that are sexually active by age group and gender

Age	Male		Female	
	Number	%	Number	%
15–19 years	298	26.4	460	13.4
20–24 years	188	46.6	184	34.4
Total and means	533	34.4	790	19.4
Median age at first sex (in years)	15.8		16.6	
Interquartile range (in years)	4		4	

Table 2: Results (odds ratio) of the logistic regression of primary sexual abstinence with selected socio-demographic and ideational variables – never married respondents

Variables	Male		Female	
	Model 1 ^a	Model 2 ^b	Model 3 ^a	Model 4 ^b
Socio-demographic variables				
Religion				
Catholic (RC)	1.00	1.00	1.00	1.00
Protestant	1.22	1.01	0.74	0.68
Moslem	0.28*	0.31*	0.21***	0.34*
Others	0.63	0.69	0.89	1.45
Place of residence				
Rural (RC)	1.00	1.00	1.00	1.00
Urban	0.38***	0.47**	0.63‡	0.85
Age in years				
Living arrangements	0.79***	0.80***	0.79***	0.80***
Living arrangements				
Does not live in same household as the father (RC)	1.00	1.00	1.00	1.00
Lives in same household as the father	1.20	1.14	1.80*	1.76‡
Enrolment status				
Out-of-school (RC)	1.00	1.00	1.00	1.00
In-school	2.15*	2.12*	2.30*	1.99
Use of alcohol				
Never used (RC)	1.00	1.00	1.00	1.00
Ever used	0.61*	0.55*	0.43**	0.44*
Ideational variables				
Perceived self-efficacy to refuse sex with someone known for more than 3 months	////	2.06**	////	1.18
Perceived self-efficacy to refuse sex with someone truly cared for	////	1.01	////	2.44***
Perceived self-efficacy to refuse sex anytime	////	1.11	////	1.45
Score for self-esteem	////	0.92*	////	1.01
Belief that sex should take place only after marriage	////	1.88**	////	1.69*
Perceived social support for sexual abstinence	////	0.97	////	1.02
Perception that most friends are having sex	////	0.37***	////	0.30***
Pseudo-R ²	13.9%	19.5%	10.8%	19.5%
Number of cases	485	485	643	643
Hosmer-Lemeshow χ^2 (grouped)/p	11.1 / 0.196	5.19 / 0.737	4.70 / 0.789	3.74 / 0.880
% correctly classified	70.7	75.3	81.9	82.7
Log likelihood ratio test: χ^2 / p	34.4 / 0.001		55.5 / 0.001	

Notes:*** p<0.001; ** p<0.01; * p<0.05; ‡ p<0.1

^a model includes only socio-demographic variables; ^b model includes socio-demographic and ideational variables

increase of one year in age reduces the odds of reporting primary sexual abstinence by 21%. Urban residence is another factor with highly significant negative effects on sexual abstinence. Urban residents are about 62% less likely than their rural counterparts to report sexual abstinence. The pattern of effects of religion show that whereas there is no significant difference between Catholics and Protestants, belonging to the Islamic faith is associated with reduced likelihood of practicing primary sexual abstinence. The data show that living in the same household as the father does not appear to affect the practice of sexual abstinence among boys. Finally, the data show that the use of alcohol is associated with reduced prevalence of sexual abstinence.

When ideational variables are included in Model 2, the pattern of effects of socio-demographic variables remains practically the same. However, the proportion of the variance explained increased considerably (from 13.9% to 19.5%). It can be seen that about 30% of the explained variance is due to the inclusion of ideational variables in the model, pointing to their relative importance. The results of

the log likelihood test that compare this latter model to the socio-demographic variables-only model show that the ideational variables are jointly significant at the 0.001 level.

In terms of the net effects of the individual ideational variables, the most significant is the perceived sexual behaviour of peers. The perception that most friends are having sex decreases the odds of sexual abstinence. Perceived self-efficacy to refuse sex with someone known for more than three months is the only self-efficacy variable that has significant effects on abstinence among boys. Finally, the male data show a negative relationship between self-esteem and abstinence.

Girls

While there are similarities between the boys and the girls concerning patterns of effects of the predictor variables, there are a few noticeable differences also. The results reported under Model 3 (containing only socio-demographic variables) show that, as with boys, age, religion, in-school status and use of alcohol have significant effects on sexual

abstinence. However, unlike the male data, living under the same roof as the father tends to shield girls from premarital sexual experimentation.

The introduction of ideational variables in Model 4 results in a considerable increase in the proportion of the variance explained. Actually, almost 45% of the explained variance in this model is due to the presence of ideational variables in the model. This demonstrates that ideation plays a more important role in determining sexual abstinence among girls than among boys. Examining the pattern of effects of the ideational variables reveals that, similar to what was observed among boys, the perceived sexual behaviour of peers is strongly correlated with the respondent's sexual activity. Compared with those who did not report that most of their friends are sexually active, the girls who perceived prevalent sexual activity among friends are 69% less likely to report sexual abstinence. Self-efficacy is another ideational variable with strong independent effects on sexual abstinence. In this regard, only one indicator of self-efficacy appears important: perceived capability to refuse sex with a person one truly loves. Additionally, unlike the pattern observed among boys, self-esteem is not significantly associated with reduced practice of sexual abstinence among girls.

Table 3: Proportion of sexually active youth reporting condom use during last sexual intercourse by selected socio-demographic variables

Characteristics	Number of respondents	% reporting
Province		
Butare	97	26.8
Kibuye	62	6.4
Kigali Ville	191	30.5
Umutara	124	8.1
Type of place of residence		
Urban	302	26.8
Rural	172	8.1
Gender		
Male	210	26.2
Female	264	15.1
Marital Status		
Single	297	28.6
Ever-married	177	5.6
Age group		
15–19	164	18.3
20–24	310	21.0
Religion		
Catholic	200	28.0
Other Christians	210	11.0
Moslem	39	28.2
Others	25	20.0
Level of education		
None	86	8.1
Primary	296	17.2
Post-primary	92	39.1
Nature of last sexual intercourse		
With casual partner	146	20.5
With regular partner	328	19.8
All Respondents	473	20.0

Source: JHU/PCS Rwanda Youth Baseline Survey, May 2001

Condom use

In the analyses presented in Table 3, the dependent variable is the reported condom use during the last sexual intercourse. The data show that condom use is not the norm among the target audience. Only 26% of sexually active boys and 15% of sexually active girls reported condom use during the last sexual intercourse. Moreover, only 13.7% of boys and 7% of girls reported consistent condom use during the last 12 months (data not shown). In addition to the fact that boys are more likely than girls to report condom use, the practice is also associated with urban residence, religious affiliation (the indicator is considerably lower among Protestants than among Catholics or Moslems) and educational attainment. Similarly, young adults are more likely than adolescents, and single individuals more than their married counterparts to report condom use. Also, among those not currently married, parental education and residence in the same household as the parents tend to favor condom use.

In an attempt to further identify the correlates of condom use, logistic regression models that relate condom use to socio-demographic variables, type of sexual relationship and ideational variables were estimated. It is clear from the preceding bivariate analyses that condom use is essentially an out-of-wedlock practice. Therefore, the following logistic models were estimated among never-married youth. Two models were estimated: one with socio-demographic variables only, and the other with socio-demographic variables and the individual ideational variables. The results of the estimated models are presented in Table 4. Let us consider the socio-demographic variables-only model first (Model 1). The Hosmer-Lemeshow statistics indicate that this model fits the data fairly well. Moreover, the independent variables included in the estimated model collectively explained 16% of the variance in condom use. Looking at the pattern of effects of the variables, it is obvious that urban residence is the most significant socio-demographic correlate of condom use. Compared with rural residence, the urban environment is associated with more than a four-fold increase in condom use. Young adults are about 2.5 times as likely as their adolescent peers to report condom use. Equally positively associated with condom use although less significantly so is education: the respondents with some education were more than twice as likely to use condoms as those with no education. Religion also appears to make a significant difference in terms of condom use with Protestants being considerably less likely than Catholics to report condom use. There is a negative relationship between casual sex and condom use.

In the presence of ideational variables (Model 2), urban residence and current age remain strong determinants of condom use. On the other hand, the differences by the nature of the sexual relationship, by education and by religion have become less conspicuous. The results of this model also show that only perceived self-efficacy to use a condom, and to a lesser degree, discussion of HIV/AIDS with the sex partner and discussion about condom use with the sex partner are the ideational variables with significant independent effects on condom use. Knowledge of a source for condom use tends to increase condom use albeit insignificantly. Similarly, the positive effects of perceived attitude of the best

Table 4: Results (odds ratio) of the logistic regression relating condom use to socio-demographic and ideational variables — never-married youth

Explanatory variables	Model 1 ^a	Model 2 ^b
Socio-demographic Variables		
Education		
No education (RC)	1.00	1.00
Some education	2.63*	1.54
Religion		
Catholic (RC)	1.00	1.00
Protestant	0.37**	0.62
Moslem	1.32	1.44
Others	0.64	1.05
Place of residence		
Rural (RC)	1.00	1.00
Urban	4.45***	4.78***
Age group		
15–19 (RC)	1.00	1.00
20–24	2.46**	2.70**
Type of sexual relationship		
Non-casual (RC)	1.00	1.00
Casual	0.45**	0.62
Gender		
Female (RC)	1.00	1.00
Male	1.48	1.05
Living Arrangements		
Does not live in same household as father (RC)	1.00	1.00
Lives in same household as father	1.27	1.47
Ideational Variables		
Ideational factor score	////	////
Individual ideational variables-	////	
Perceived self-efficacy to use condom every time		1.33‡
Knowledge of a source for condom		2.63
Personal advocacy in favor of condom use		1.53
Self-esteem score		0.93
Best friend approve of condom use		1.62
Discussion of HIV/AIDS with partner		2.85**
Discussion of condom use with partner		2.07‡
Knowledge about HIV/AIDS		1.28
Pseudo-R ²	16.3%	30.1%
Number of cases	292	292
Hosmer-Lemeshow χ^2 (grouped)/p	10.30 / 0.244	5.14 / 0.742
% correctly classified	72.6	80.4
Log likelihood ratio test: χ^2 / p	49.3 / 0.001	

Source: JHU/PCS Rwanda Youth Baseline Survey, May 2001

Notes: ^a Socio-demographic variables only; ^b Socio-demographic variables plus individual ideational variables

*** p \leq 0.001; ** p \leq 0.01; * p \leq 0.05; ‡ p \leq 0.1

friend toward condom use, personal advocacy for condom use, and knowledge about HIV/AIDS are not statistically significant. Self-esteem is associated with a reduced likelihood of using condoms but the relationship is not significant.

Discussion

The foregoing has examined the correlates of positive sexu-

al deviance among Rwandan youth using data from a 2001 sample survey. The data show that primary sexual abstinence is quite common among unmarried girls with more than 80% reporting that they never had sex. Among the boys, the behaviour is less common although it is still noteworthy that about two-thirds of them are yet to experience sex. The patterns of effects of the socio-demographic and psychosocial variables on primary sexual abstinence have important implications for programme and policy development, and future research.

The most significant socio-demographic correlate of sexual abstinence is age, with older youth being considerably less likely than their younger counterparts to report abstinence. This shows that it is important to target youth with primary sexual abstinence messages early (preferably in the late childhood or early teenage years) and thereby help them to build up their capability to refuse sex before sexual activity becomes widespread. In this regard, an effective strategy would be to help young adolescents develop appropriate life skills that will strengthen the capabilities to postpone sexual initiation. Critical thinking, priority setting, problem solving, sexual negotiation, and coping with life challenges are necessary skills that an appropriate intervention should help young adolescents to develop early and apply in every day situations.

Another important socio-demographic correlate of sexual abstinence is urban residence pointing to the importance of the diffusion of non-traditional ideas in shaping sexual behaviour. This finding underscores the need to focus on urban youth specifically, in all efforts aimed at promoting positive sexual deviance. Since use of alcohol has a negative influence on primary sexual abstinence among boys and girls, it is important that programmes aimed at promoting sexual abstinence educate the audience about the negative effects of alcohol on safe sex practices and discourage alcohol use among youth. Living in the same household as the father is a significant predictor for girls but not for boys. A gender-based double sexual standard apparently exists on the part of parents. This points to the need to target parents with messages aimed at promoting egalitarian treatment of boys and girls in sexual matters.

The finding that Moslems are less likely to report sexual abstinence than Christians is quite interesting and rather unexpected. It is important to note that Rwanda is a predominantly Christian country with Moslems representing only about 5% of the population. It is possible that the relatively small number of Moslems in our sample (30 single girls and 20 single boys) is a source of bias. It is also possible that Moslems in a predominantly Christian country are not subject to the same rigorous social controls that operate in areas with a larger representation of Moslems. More research is necessary to clarify the link between Islamic religious affiliation and sexual abstinence among unmarried youth in Rwanda.

The strongest ideational correlate of sexual abstinence is the perception about the sexual behaviour of peers. When friends are perceived to be sexually active, the odds are that the youth will also be sexually active. Theoretically, there are two possible explanations for the observed pattern: selection (that is, youth choosing their friends on the basis of their own

behaviours) or socialisation (that is, youth being influenced by their peers to adopt new behaviours). The extent to which either factor is at play among Rwandan youth is not clear from the data.

The negative relationship between self-esteem and abstinence shown by the male data may come as a surprise but is not difficult to explain against the background of prevailing norms among Rwandan youth that tend to favor premarital sex. For example, less than 30% of the boys in our sample believed that a boy should wait until marriage to experience sex. Deviating from group norms may lead to ridicule and even ostracism from peers. In the event of such negative reactions, a positive deviant youth may develop a complex of inferiority and thereby manifest low self-esteem. There is some empirical evidence to the effect that the relationship between sexual behaviours and self-esteem is mediated by acceptable societal sexual standards. In sexually permissive groups, departure from acceptable group standards tends to be associated with lower self-esteem (e.g. Perlman, 1974; Morris *et al.*, 2000). This finding underscores the need to change sexual norms among youth and to promote sexual abstinence as a responsible and socially acceptable choice to make. The ridicule and mockery from peers to which positive deviants may be subjected may lead to a negative change in behaviour to conform to group norms and thereby increase the chances of group acceptance. Commitment to the ideals of positive sexual deviance is the key in this respect. Abstaining youth should be encouraged to be proud and vocal about their behaviour and to advocate in favor of the behaviour among their peers. An appropriate communication intervention will be one that highlights the challenges of positive sexual deviance while empowering youth to address the challenges effectively.

The importance of the perceived self-efficacy to refuse sex with someone truly loved indicates that romantic love and sexual abstinence coexist with difficulty. The finding points to the challenge of remaining abstinent when in love. The programmatic implication of this finding is the need to model responsible and safe sexual behaviour in the presence of romantic love. Appropriately designed messages should encourage youth to remain abstinent even when in love. Many studies have demonstrated that youth generally believe that sex is an acceptable way of demonstrating love. One way to counter this group norm is to model sexual abstinence as an appropriate way of demonstrating that one loves and respects his/her romantic partner.

The single most important socio-demographic correlate of condom use is urban residence. The finding that rural residents were several times less likely to report condom use than their urban counterparts underscores the need to give privilege to rural areas in interventions aimed at increasing condom use. Such efforts should start by identifying the supply and behavioural factors inhibiting condom use in rural areas and designing appropriate interventions to address them. Age is another variable whose relationship with condom use has important programmatic implications. Condom use increases significantly with age revealing that sexually active teens are more likely than their young adult counterparts to engage in unsafe sexual practices. This reiterates the need to encourage youth to postpone the onset of sexu-

al activity at least until early adulthood. Meanwhile, among sexually active adolescents special efforts should be geared toward improving risk perception and increasing condom use.

The single most significant ideational correlate of condom use is discussion of HIV/AIDS with the sex partner. Discussion of condom use with the sex partner is another ideational variable that is somewhat correlated with condom use. These findings support the need to promote communication between spouses about HIV/AIDS and condom use. Female youth, especially, should be empowered with the skills necessary to negotiate condom use successfully. Changing certain norms, those that ascribe a passive role to the girl in sexual negotiation for example, should be attempted. By and large, it is important to identify those factors that impede equal participation of both sexes in sexual negotiation and develop appropriate strategies to address those factors.

The data also show the association (albeit marginal) between the perceived self-efficacy to use a condom and actual condom use. The significance of this finding is that to increase condom use, it is important to identify and address the emotional and cognitive factors affecting the capability of using condoms. Prominent among these is personal dislike of condoms on the pretext that it does not feel natural. In this respect, programme staff could explore having a credible satisfied user debunk the negative perceptions about condoms and promote consistent condom use as a wise decision in favor of life. In this respect, it should also help to increase knowledge about condoms, including where to obtain them and how to use them.

It is important to mention that promoting positive sexual deviance involves changing unhealthy group norms. This will require concerted efforts at various levels of the society: individual youth, household, community and policy levels. An effective program will be one that identifies challenges to positive sexual deviance at the various levels and adopts a multi-audience and multi-media approach to encourage positive changes. For example, while individual youth need to be empowered to set their priorities and make correct choices, negative group norms among youth should be specifically focused upon for change. Parents and guardians should be encouraged to facilitate an enabling environment for the practice of positive sexual deviance among male and female youth. Communities should be sensitised to the needs of youth and empowered to play a more active role in promoting the practice of safe sex choices among this population. Finally, it should be understood that without a positive policy environment, efforts at the other levels might fail to yield their full potentials. Therefore advocacy should be an important component of an effective youth program.

Finally, it is pertinent to note that the ideation model is appropriate in explaining differences in positive deviant behaviours. The advantage of the ideation model over a model containing only socio-demographic variables is apparent in the increased explained variance and the results of the log likelihood test. The application of the model to sexual behaviours is still in its infancy and more research work remains to be done to provide a better understanding of the ideational variables that are important for behaviour change.

Notes

- ¹ Information on the number of households and EA maps were obtained courtesy of the Rwandan Office National de la Population (ONAPO) who had developed a comprehensive sampling frame for the 2000 Demographic and Health Surveys. Using the EA maps, field workers updated the list of buildings and households in the selected EAs.
- ² Cronbach's alpha is a test of reliability that assesses how well a set of items or variables measures a single unidimensional construct. It is computed as a function of the number of test items and the average interitem correlation among the items: $\alpha = [kr] / [1 + (k-1)r]$, where k is the number of test items and r is the interitem correlation. A reliability coefficient of 0.70 or higher is generally considered acceptable in the Social Sciences.
- ³ Upon request, most statistical packages (e.g. STATA) will generate a new variable representing the summative scale from the variables specified in the alpha procedure. Since alpha has to do with reliability, it is related to factor analysis and the summative scale obtained subsequent to the alpha procedure is similar to generating a new variable from the first factor in factor analysis.

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