Adolescent perspectives on the social consequences of premarital sex and pregnancy in urban Kenya

Introduction

In this paper, I examine the perspectives of students in primary and secondary schools in Nairobi, Kenya, on the possible social consequences of premarital sex and pregnancy. I define the social consequences as the perceived reaction of the significant others (peers/ parents/ guardians) to the individual's involvement in premarital sex as well as the individual's perception of his/ her likely response to a premarital pregnancy. I further explore whether these perceptions are likely to be associated with the adolescents' perceived ideal age of sexual debut and HIV/AIDS risk perception. My hypothesis is that perception of negative reaction from the significant others as well as of individual response to a premarital pregnancy are likely to be associated with the feeling that initiation of sexual activity should be at later ages, and by a higher likelihood of perceiving some risk of getting HIV/AIDS. The hypothesis, as I later explain in my conceptual framework, is based both on theoretical considerations (especially the Health Belief Model and the Theory of Reasoned Action) and on empirical evidence that shows that perceptions of the expectations of the significant others are associated with certain individual behavior.

Researchers and policy-makers in adolescent sexual and reproductive health in sub-Saharan Africa have identified a number of potential socio-economic, psychological and health consequences of involvement in risky sexual behavior among adolescents in the region. Premarital childbearing which may be accompanied by pregnancy complications and low birth weight of infants, unsafe abortion, and the risk of contracting HIV/AIDS and other sexually transmitted infections (STIs) are some of the health consequences of engaging in early sexual debut, unprotected sex and multiple sexual partnerships (Al-Azar 1999; Ashford 2002; Ankrah 1996; Glover et al. 2003; Zabin and Kiragu 1998; Cherlin and Riley 1986; Population Council 1994; Brown et al. 2001). For both boys and girls, infection by HIV/AIDS and STIs may lead to reduced fecundity, infertility and eventual death at young ages. The socio-economic implications of premarital pregnancy and childbirth tend to disadvantage girls more than boys. For girls, it may lead to dropping out of school, less stable marriages, less steady jobs and reliance on the goodwill of others for assistance (Al-Azar 1999:15; Cherlin and Riley 1986; Kaufman et al. 2000). The psychological effects for girls can be due to stigmatization especially when such pregnancy is accompanied by abortion or in societies where premarital pregnancy itself is not socially sanctioned. On the other hand,

HIV/AIDS/STI infections may have psychological implications for both boys and girls since, as some have speculated, these diseases may still be associated with stigma in some parts of sub-Saharan Africa (e.g. Population Council 1994; ICRW 2002).

Whereas there seems to be some agreement on these potential reproductive health challenges facing adolescents in the region today, a more complete understanding of these challenges calls for addressing three more questions. First, how do the adolescents themselves perceive the socio-economic, health and psychological implications of their sexual behaviors? Second, how do they perceive their likely response to the situation of being faced with a pre-marital pregnancy? Third, do these perceptions show any association with the sexual behaviors of the adolescents? In other words, do we expect to see those who perceive negative consequences of premarital sex and pregnancy reporting responsible sexual behavior? Closely related to this question is whether such perception is likely to be associated with preference for later ages of sexual initiation and perception of some risk of getting HIV/AIDS. I argue that an understanding of these questions is important for two reasons. One, it complements and confirms the already existing views of researchers and policy makers on this subject, a vital component for the complete understanding of the extent of the problem. Secondly, studies of adolescent perception of their reproductive health challenges can form a basis for designing appropriate reproductive health education programs aimed at enabling them to tackle such challenges.

A few studies in the region have tried to address the first two questions posed here. Based on focus group discussions, a study among boys in rural Kenya found that whereas they viewed fathering a child as a sign of masculinity, they acknowledged the fact that premarital pregnancy would ruin a girl's reputation and future (Nzioka 2001). Loss of friends, limited chances of success in life and being disowned by parents were some of the cited consequences. Elsewhere, a study in Guinea by Gorgen et al. (1998) used self-administered questionnaires, face-to-face interviews and focus group discussions to examine the sexual behavior and attitudes among unmarried youths in three urban centers. The results from focus groups showed that adolescents viewed the social consequences of premarital pregnancy as being ridiculed by peers and teachers, severe punishment as well as banishment from home. In Ghana, a study among adolescents found that the majority were of the view that there was nothing good about teenage childbearing (Glover et al. 2003).

Barker and Rich (1992) used focus group discussions to examine how peer interactions and societal factors influence adolescent attitudes toward sexuality and family planning in Kenya and Nigeria. They found universal acknowledgement of negative

consequences of premarital pregnancy especially for girls. These included being forced out of school, punishment by parents, expulsion from home, ending up in poverty, and being disowned by the boyfriend. Interestingly, the boys tended to ignore the question of how making a girl pregnant would impact on their lives and instead focused on how it would affect the girl's life. In other discussions, young men tended to report that they would deny their role in case of a premarital pregnancy, a finding that corroborates that of Nzioka (2001) in which the boys indicated that they would hold the girl or her parents responsible for the pregnancy.

In a study in a rural setting of Mbale District in Uganda, Hulton et al. (2000) used focus group discussions to explore how adolescents perceived the risks of sexual activity and its consequences. Female participants were able to identify health, social and economic risks associated with early pregnancy such as abortion which could lead to death, economic inability to provide for the child, as well as the possibility of parents withdrawing their support. For male participants, the trend that emerges is similar to that in the other studies. They were not likely to perceive any risks to themselves in the event that they made a girl pregnant except in terms of being fined or imprisoned for it. Although Hulton et al. (2000) conclude that their findings point to a discrepancy between knowledge of ways of avoiding risk and actual behavior, the analysis does not involve the reported sexual behavior of the study participants. Rather, it entails a loose association drawn from reports from the focus group discussions and the general trends in adolescent sexual behavior reported in the Uganda Demographic and Health Survey of 1995. A direct association between perceived consequences of premarital sex and pregnancy and sexual behavior cannot thus be made.

In Kenya, a nationwide information, education and communication (IEC) situation survey by Kekovole et al. (1997) asked respondents about the ideal age for sexual debut for young people. Results indicated that the adolescents (mostly older ones) felt that the best age for sexual debut for girls was 17-19 years and for boys 19-21 years. Respondents were more likely to endorse sex before marriage for boys than for girls and the expulsion of girls who become pregnant from school. More boys than girls supported abortion if the girl's life were in danger. In the study in Guinea, the preferred age for sexual debut was 15 to 18 years (Gorgen et al. 1998). Temin et al. (1999) appear to adopt a different kind of approach in their study of adolescent perceptions of sexual behavior and knowledge about sexually transmitted diseases in Benin City in Nigeria. They used focus group discussions to determine the perceived extent of sexual activity among peers and found the general consensus to be that

females usually initiated sex at ages 11 to 13 years while males at ages 14 to 15 years with females reporting an earlier age of sexual debut for both sexes than males.

From these studies, it is evident that attempts to examine adolescent perspectives of the socio-economic and health consequences of their sexual behaviors have been largely descriptive. They fail to answer the third question posed earlier in this paper, that is, whether the concerns about the negative consequences of premarital sex and pregnancy expressed in these focus group discussions are associated with the sexual behavior of the study subjects, their perceptions of the ideal age of sexual initiation for young people as well as of the risk of getting HIV/AIDS. The study by Kekovole et al. (1997), which uses quantitative data, also falls short of examining whether the perceived ideal age of sexual debut is associated with the reported likely response to a premarital pregnancy or whether both show any association with the adolescents' sexual behaviors. The article by Gorgen et al. (1998) is silent on whether the combination of the survey and qualitative data can help us answer this question. The failure appears to stem partly from the objectives of most of these studies that seem to have been tailored to influence program and policy in the field of adolescent sexual and reproductive health and therefore concentrate on describing what the authors consider as the problem. Moreover, the studies are mostly based on small samples.

The purpose of the present paper is to contribute to this literature based on analysis of quantitative data. However, besides using a large sample, the analysis goes beyond the existing studies to determine whether perceived ideal age of sexual debut, and HIV/AIDS risk perception are likely to be associated with the reported perceptions of the reaction of the significant others and the perceived response to a premarital pregnancy. Responses to three sets of questions that were asked hypothetically form the basis of the analysis, that is: (i) what the respondents thought would happen if their peers/ parents/ guardians found out that they had engaged in sex, (ii) what they would do if they became pregnant (for female students) or if they made a girl pregnant (for male students), and (iii) what they perceived as the ideal age for a boy/ girl to start having sex. I argue that the responses to the first two sets of questions are indicators of the level of perceived seriousness of the social consequences of premarital sex and pregnancy that in turn should help predict perceived ideal age of sexual debut, and perception of the risk of getting HIV/AIDS. Next I describe the conceptual framework on which I base this argument before giving a description of the data and methods of analysis.

The Conceptual Framework

The Health Belief Model (HBM), the Theory of Reasoned Action (TRA) and empirical evidence largely influence my conceptual framework. The framework is based on the hypothesis that perception about the consequences of premarital sex and pregnancy should be associated with perceived ideal age of sexual debut as well as HIV/AIDS risk perception among adolescents. Both the HBM and the TRA provide useful constructs to this framework. The construct of perceived severity of the HBM postulates that an individual's belief about the seriousness of the consequences of a health condition may prompt him/ her to act to prevent that condition (Redding et al. 2000; Vanlandingham et al. 1995). The normative belief construct of the TRA on the other hand introduces the component of the individual's subjective norms in predicting behavioral practices. This refers to the individual's perception of whether the significant others approve or disapprove of his/ her behavior.

It is beyond the scope of the present paper to dwell on the merits and demerits of the two models since the purpose here is not to evaluate them but rather to provide a theoretical basis for understanding the phenomenon at hand (see for example Redding et al. 2000 and Vanlandingham et al. 1995 for some of the criticisms of the two models). From the two constructs, I postulate that we should expect respondents who believe that their peers, parents or guardians would not react kindly to their involvement in sex to be more likely to report that young people should delay initiating sexual activity to later ages, and to be more likely to perceive some risk of getting HIV/AIDS. Similar expectations apply to adolescents who believe that they would respond to a premarital pregnancy in a negative way.

Empirical evidence suggests that peer influence has a more profound impact on adolescent behavior than parental influence (Aseltine 1995; Gage 1998; Vanlandingham et al. 1995; Pick de Weiss et al. 1991; Barker and Rich 1992). The study by Pick de Weiss et al. (1991) of female adolescent girls in Mexico found that the perceptions of peer attitudes toward sexual involvement were significantly associated with contraceptive practice. In Thailand, the study by Vanlandingham et al. (1995), though not confined to adolescents, found that the perception of peer expectations of condom use had a significant influence on condom use. Thus, according to the framework, we should expect adolescent perceptions of negative peer reactions to sexual indulgence to be more strongly associated with preference for later ages of sexual debut, and perception of some risk of getting HIV/AIDS than do negative perceptions of the parents' or guardians' reactions.

Peer influence notwithstanding, other arguments have maintained that family influence still does matter. Plotnick (1992) argues that family background characteristics influence adolescent sexual and marriage behavior through attitudes. Cherlin (1999) maintains that though not all outcomes can be attributed to family structure, the presence of both parents does make a difference in child behavior. Furstenberg (1998) appears to decry the failure to provide young people with appropriate reproductive health information in the United States that can be partly attributed to parental ceding of this responsibility to schools which are themselves constrained by political pressures. In the study of Mexican adolescent girls, Pick de Weiss (1991) found that respondents from families with strong parental control fused with openness in the discussion of sexual matters were less likely to have had sex. In the context of the framework adopted here, we should expect variations in the adolescent perceptions of the reactions of the significant others and possible response to premarital pregnancy by family structure with a proxy measure of the person the respondent usually lived with. However, this proxy for family structure does not give an indication of the level of openness of parent-adolescent communication in reproductive health matters. It has been noted that where such communication exists in much of sub-Saharan Africa, it is usually in the form that adolescents view as negative (Barker and Rich 1992; Gage 1998). This makes it difficult to predict the likely direction of variations by family structure.

Evidence presented earlier gave some indication of gender differences in adolescent perceptions of the possible consequences of a premarital pregnancy (Barker and Rich 1992; Nzioka 2001; Kekovole et al. 1997; Hulton et al. 2000). According to the evidence, girls are likely to perceive negative consequences of a premarital pregnancy; hence based on the framework, this perception should be strongly associated with preference for later ages of sexual debut, and perception of some risk of getting HIV/AIDS among them. Boys on the other hand are likely to deny that impregnating a girl would have any impact on them, and would therefore be expected to have more liberal attitudes toward premarital pregnancy. In that case, we should expect such perceptions to be weakly associated with preference for later initiation of sexual activity among young people, and perception of some risk of getting HIV/AIDS. Age is another important component of the framework because it determines the initiation of sex. Perceptions and attitudes, too, do vary by age. The study by Kekovole et al. (1997) found that older adolescents were more likely to suggest later ages of initiation of sexual intercourse. If the hypothesis is true, such reports should be associated with negative perception of the reaction of the significant others to sexual indulgence and to possible negative response to a premarital pregnancy. Thus, we should expect variations by age and

sex of the respondent regarding perception of the reaction of significant others to engagement in premarital sex as well as the likely response to a premarital pregnancy.

The use of the term "association" in this framework and in the paper is deliberate and therein lies one of the limitations of the framework and the paper. Given that the data are cross-sectional, what I try to do, especially in the final section of my analysis, is to investigate the presence of association rather than causation between perceived reaction of the significant others to premarital sex and possible response to a premarital pregnancy on the one hand, and perceived ideal age of sexual debut and HIV/AIDS risk perception on the other. Longitudinal data would be more appropriate for establishing causation and its direction. But data on attitudinal changes and sexual behavior among adolescents is lacking in much of sub-Saharan Africa. The second limitation of the framework is its emphasis on the association between the psychosocial factors and adolescent behavior. Other factors such as economic (Gage 1998; Kaufman et al. 2000; Luke 2003), cultural (Gage 1998; Hulton et al. 2000) and genetic (cf, Cherlin 1999) influences could also be important in determining adolescent perceptions and behavior. However, the nature of the present study does not permit a more reliable measurement of these factors, and this takes me to the source of my data and methods of analysis I employ in the paper.

Data

The data used for this paper are from a survey conducted jointly by the Population Council and the Nation Media Group between May and July 2001 as part of a multi-media reproductive health program. A total of 3600 students in 40 primary and 20 secondary schools were targeted for inclusion in the study. Information was actually collected from a total of 3598 students comprising 1820 boys and 1778 girls using self-administered questionnaires resulting in a response rate of 99.9%. The study also collected qualitative information through indepth interviews with teachers on reproductive health and economic conditions of the students. Some 30 guidance and counseling teachers were purposively selected for these interviews from 15 schools randomly selected from the 60 schools involved. However, for the purposes of the present paper, I rely on the quantitative information given that the qualitative information was not collected from the students themselves which might pose potential problems in trying to link up the quantitative and qualitative data.

The first stage in obtaining the sample of students for the study involved sampling of schools by division. The sample of schools was drawn from the lists of primary and secondary schools in Nairobi according to the eight divisions i.e. Central, Makadara, Kasarani, Embakasi, Pumwani, Westlands, Dagoretti and Kibera. It is worth noting here that the sample frame included only those schools (both private and public) registered by the City Council of Nairobi. Those schools which were not registered and which might be mostly found within Nairobi's informal settlements were not included in the sampling process and so my results may not apply to them. In each of the selected schools (both primary and secondary), 60 students were targeted for interview. Through the assistance of the class teacher, 12 students from each of the classes Four to Eight in each of the primary schools were identified to participate in the study. For the secondary schools, 15 students were identified each from Forms One to Four, again through the assistance of the class teacher. Consent to conduct the interviews was first obtained from the headteachers, then from the selected students. The manner of selection of students for the study may introduce bias given that more often than not, the class teachers would likely select students who had strong opinions regarding the questions being asked. Though it does not solve the problem of bias, I handle this issue in my regression analysis by estimating robust standard errors adjusted for possible non-independence of observations within schools.

One of the concerns that may arise regarding the use of self-administered questionnaires with adolescents is their ability to handle skip patterns (Zukerberg et al. 1996). The questionnaires for this particular study had a relatively simple design with no complicated skip patterns. In any case and for all cases, a research assistant was always available to explain how to handle the questionnaire, and to respond to any problems the students might have in understanding some of the terms used in the instrument. Another problem could stem from missing key information like age and sex either because the respondents forgot or deliberately decided not to answer the question. Whereas the reporting of these key demographic parameters was complete, three other background variables i.e. class/ form, religious affiliation and the person the respondent usually lived with had missing cases but the numbers were negligible (3, 6 and 11 cases respectively). The questions that form the basis of this analysis solicited fairly reasonable response rates in the following manner: 87% for perceived peer reaction, 89% for perceived parental/ guardian reaction, 96% for ideal age of sexual debut for girls, as well as for boys, 96% of the females on how they would respond to a premarital pregnancy, 91% of the males to the question of their perceived response in the event that they made a girl pregnant, and 98% for HIV/AIDS risk perception.

One shortcoming of the data here is that individuals are limited to only one type of perceived reaction from the significant others or one way of possible response to a premarital pregnancy. In reality, individuals may perceive multiple ways in which their peers/ parents/ guardians could react to their involvement in premarital sex or in which they may respond to a premarital pregnancy.

Others have argued that the use of self-administered questionnaires gives leeway to respondents to alter their true responses to suit particular self-presentation motives (Ritcher and Johnson 2001) leading to under- or over-reporting. But this is also true for face-to-face interviews[1]. Moreover, the use of self-administered questionnaires may allow respondents to choose to skip those questions they may find too sensitive to answer rather than giving incorrect answers. Elsewhere, empirical evidence suggests that the mode of administering interviews with adolescents does not affect data quality so long as the respondents feel that their confidentiality is guaranteed (Hess et al. 1998). In Kenya, a quasi-experimental study by Mensch et al. (2001) to determine whether the mode of interview had an effect on the reporting of sensitive behavior by adolescents yielded mixed results. The mixed results from the Kenyan study notwithstanding, other studies have resorted to the use of self-administered instruments especially when collecting sensitive information like drug use and sexual behavior among young people (e.g. by Gorgen et al. 1999; Aseltine 1995) some of whom may be put off by face-to-face questions regarding their experiences with drugs and sex.

Methods

The age groups covered by the study ranged from those below 10 years of age to 20 years and above with information on age given in groups of less than 10 years old, 10-14, 15-19, 20-24 and 25 years and above. For the purposes of this paper, only those aged between 10 and 19 years are selected for inclusion in the analysis based on the World Health Organization (2002) definition of adolescents as those aged between 10-19 years. In the first part of the analysis, I use simple descriptive statistics to present the distribution of respondents by how they perceive the significant others would react to their sexual indulgence, their perceived ideal age of sexual debut for both boys and girls, their perceptions of how they would respond to a premarital pregnancy as well as by HIV/AIDS risk perception, according to selected background characteristics. I use the Chi-square statistic to test whether any

[1] For example, Miller et al. (2001) discuss how respondents can alter their answers to survey questions to suit particular self-presentation motives especially when they think that they are likely to benefit from any intervention that may come out of the research work.

observed differences by these background characteristics are significant so as to determine whether the variations reflect what I expected to find as outlined in the conceptual framework.

In the second part, I use multivariate logistic regression analysis to test whether perception of negative reaction of the significant others and perceived negative response to a premarital pregnancy are likely to be associated with preference for later ages of sexual debut for young people and perception of some risk of getting HIV/AIDS controlling for the respondent's age, sex and family structure. I use the response to the question of whom the respondent usually lived with as a proxy for family structure. Given that some studies have shown that sexual experience may be under-reported (e.g. Smith 2003; APHRC 2002) and the preliminary results indicate that this might have been the case, I do not explore the association with sexual experience. Rather, I use as my dependent variables other variables that may be fairly reported i.e. perceived ideal age of sexual debut and HIV/AIDS risk perception.

The use of logistic regression arises from the fact that the dependent variables- preference for later ages of sexual initiation and HIV/AIDS risk perception- are constructed to be dichotomous taking on a value of 1 for success or 0 otherwise. Success in this case is defined as preferring later ages of sexual debut for young people and perceiving some risk of getting HIV/AIDS. Logistic regression analysis is based on a linear model for the natural logarithm of the odds (log-odds or logit transformation) (Dayton 1992) of a success where the odds is a function of the probability of observing the event divided by the probability of not observing that event given a set of predictor variables. It is of the form:

$$\ln\left[\frac{\pi}{1-\pi}\right] = \ln\left[\frac{P(Y=1|X_1, X_2, \ldots, X_n}{1-P(Y=1|X_1, X_2, \ldots, X_n}\right] = \alpha + \beta_1 X_1 + \ldots + \beta_n X_n \quad \ldots 1$$

where Y is the outcome variable, X_1, X_2, …, X_n are the predictor variables, π is the conditional probability of the form $P(Y=1|X_1, \ldots X_n)$. Since the probabilities and odds obey the multiplicative rules, the logit transformation reduces the model to additive (linear) form that is simpler to estimate (Dayton 1992) as given by the last part of equation 1 where the parameter α is the constant while β_j are the logistic regression coefficients.

The estimation of these unknown parameters (α and β_j) is based on the maximum likelihood estimation process in which initial guesses are made about their values, then through iteration the estimates are constantly adjusted until the maximum value of the likelihood function, L, is found. The analysis here is done using Stata program and the interpretation of the results is done in terms of the exponentiated coefficients or odds ratios i.e. $exp(b_j)$ where b_j is the estimate for the parameter β_j. Thus, for each unit increase in X_j, the predicted odds are increased while for a unit decrease in X_j the predicted odds are decreased by a factor $exp(b_j)$. If on the other hand all predictors are set to 0, the predicted odds are $exp(a)$ in which case a is the estimate for the parameter α.

Results

Background characteristics

Table 1 shows the percent distribution of respondents by selected background characteristics. Slightly less than two-thirds of the respondents were aged below 15 years which also tends to reflect school enrollment. Younger adolescents tend to be concentrated in primary schools and older ones in secondary schools. About 96% of those aged 10-14 years were in primary schools while slightly over three-quarters of those aged 15-19 years were in secondary schools. Boarding or day schooling appears to be associated with the level of schooling as well. About 80% of the boarders were in secondary schools while nearly three-quarters of the day scholars were in primary schools. Both males and females are fairly represented in the sample though the slightly higher proportion of males than females could reflect more males than females remaining in schools at higher ages. Estimates from the Kenya Demographic and Health Survey (KDHS) 1998 indicate that about the same proportion of boys and girls (82%) were enrolled in schools at ages 6-10 years in the country as a whole but by ages 16 to 20, only about 35% of the females compared to about 45% of the males were still in school.

<Table 1 about here>

About 69% of the respondents reported living with both parents and another 21% with a single parent. It is worth noting here that the question referred to the person the respondent usually lived with so that for those who were in boarding schools, it referred to the person the respondent would usually live with during school holidays. The role of religion in influencing attitudes and behavior is increasingly being recognized in the literature. Nevertheless,

information on religion was poorly collected resulting in skewed distribution with over 90% reporting being Christians. But Christians comprise a whole range of denominations with different sets of religious tenets and demanding different levels of adherence to religious teachings. It is for this reason that I do not examine differences in perceptions by religious affiliation though it could be an important background factor in explaining reported perceptions of the consequences of premarital sex and pregnancy.

Only about 15% of the respondents reported ever having had sex. This comprised about 7% of those aged 10-14 years and 28% of those aged 15-19 years. Estimates from a study among adolescents in Nairobi by APHRC indicate that about 66% of the males and 59% of the females aged 15-19 years reported ever having had sex. These proportions are, however, slightly lower than reports of best friends' sexual experiences pointing to the possibility of under-reporting of own sexual experience. Results from KDHS 1998 show that about 44% of the females and 54% of the males aged 15-19 years reported having ever had sex in Kenya as a whole. With a proportion of only 38% of males and 16% of females aged 15-19 years reporting that they had ever had sex in the present study, one may suspect that sexual experience was under-reported though the question on best friends' sexual experiences, which could provide a way of evaluating reports of own sexual experience, is lacking.

Descriptive analysis

Perception of peer reaction

Among the possible reactions from peers, the highest proportion of respondents felt that they would be despised in case they engaged in premarital sex. Further disaggregation by sex shows that more females than males held this view (about 29% of the females compared to about 20% of the males). Differences by age indicate that younger males were more likely to feel that they would be despised than their older counterparts (23% versus 16%). This is, however, reversed for females. A higher proportion of older females (about 32%) than younger ones (about 27%) felt that they would be despised by their peers. Less than 10% of the respondents perceived no reaction from peers. Differentials by age and sex show that about five times as many older adolescents as younger ones (16% versus 3%) and almost three times as many males as females (11% versus 4%) perceived no reaction from peers. Table 2 gives the percent distribution of respondents by the main perception variables.

<Table 2 about here>

I consider the expectations of being laughed at/ ridiculed, despised, rebuked or isolated as more negative compared to those of no reaction, being praised, admired or seen as an epitome of good behavior to be emulated. Informing parents or teachers can also be considered negative especially when they wield a lot of influence on adolescents' lives. Results in Table 2 show that it was the second most important expected reaction from peers. But younger adolescents were almost six times more likely to expect it than older adolescents (about 23% versus 4%). Based on these considerations, about 80% of female respondents perceived negative peer reaction toward premarital sex compared to about 66% of the males. Table 3 gives the percent distribution of respondents by perceived negative reactions from the significant others, preference for later ages of sexual debut, likely negative response to a premarital pregnancy, and perception of the risk of getting HIV/AIDS according to selected background characteristics.

<Table 3 about here>

While younger adolescents were generally more likely to perceive negative peer reaction, differences by age are more marked for males than for females. About 80% of younger males compared to 42% of older ones perceived negative reaction from peers. For females, the proportions are 83% and 73% respectively. No major differences by family structure are noted in the proportions that perceived negative peer reaction while the distribution by level of schooling tends to mirror that of age.

Perceived parental/ guardian reaction

About 35% of the respondents felt that they would be punished or beaten comprising the highest proportion of respondents according to perceived reactions from parents/ guardians (Table 2). Incidentally, more males (about 39%) than females (about 31%) felt this way. Younger adolescents (both males and females) were more likely than their older counterparts to report punishment or beating from parents/ guardians (about 42% versus 23%). Being chased from home was the second most important expected reaction from parents/ guardians. A higher proportion of females than males expected such reaction (about 25% of females compared to 18% of males), and just like in the case of punishment/ beating, younger adolescents were more likely than older ones to hold this view (about 24% compared to 18%).

Perceptions of being punished/ beaten, chased from home, forced to get married or quarreled may be regarded as expectations of serious consequences of engaging in premarital sex for the adolescents. On the basis of such assumption, both male and female adolescents appear to be in agreement regarding negative parental/ guardian reaction. A difference of only 0.5 percentage points is noted between the male and female proportions with such perception (Table 3) which is quite different from the scenario observed for negative peer reaction. It is also interesting to note that the proportion that perceived no peer reaction is almost four times that which perceived no reaction from parents/ guardians, a possible indication of the adolescents' recognition that parents/ guardians still matter. Younger adolescents were more likely to perceive negative parental/ guardian reaction than older ones, and once again, the differences by age are larger for males than for females.

Response to premarital pregnancy

About 19% of the females felt that they would respond to a premarital pregnancy in ways that may be considered by the society or the government as negative compared to 18% of the males (Table 3). These include carrying out an abortion[2], running away from home/ school or from the girl, and committing suicide. Those who usually lived with single parents and those who had ever had sex were more likely to perceive negative response to a premarital pregnancy (Table 3). Similarly, younger adolescents were about one and a half times more likely to perceive negative response to a premarital pregnancy than their older counterparts.

The high proportion of males reporting that they would help the girl through in case of a premarital pregnancy (Table 2) needs to be interpreted with caution. As earlier evidence had suggested, most males tend to report that they would either deny involvement or hold the girl and her parents responsible for the pregnancy while females tend to feel that their boyfriends would desert them. A higher proportion of older males (about 57%) than younger ones (about 40%) reported that they would help the girl through in case of a pregnancy.

Ideal age of sexual initiation

The legal age of consent in Kenya is 18 years. Since information on ideal age of sexual debut is available only in grouped form, I consider 20 years and above to be late ages of sexual

[2] Abortion is still illegal in Kenya and can only be performed to save the life of the mother. This has, however, not deterred its practice though much of it is done illegally and under unsafe circumstances (Oguttu and Odongo 2001).

initiation as opposed to 19 years or less. Consistently more females than males prefer later ages of sexual debut for both boys and girls (Table 3). While there is no marked overall differences by age, a higher proportion of younger males than older ones prefer later ages of sexual debut for young people. The opposite is the case for females. There appears to be some differences by family structure with regard to preference for later ages of sexual initiation for boys but not for girls. What also emerges is that overall, more respondents preferred later ages of sexual initiation for boys than for girls. Differences by sex indicate that this view was held mostly by males while among females, a slightly higher proportion favored later ages of sexual initiation for girls than for boys (Table 3). Living with a single parent made no difference in whether the preference was in favor of boys or girls. But for those who lived with both parents, the preference was more in favor of boys than girls.

HIV/AIDS risk perception

About 28% of the respondents perceived some risk (either low or high) of getting HIV/AIDS (Table 3). Age differentials indicate that a higher proportion of older respondents (about 40%) were likely to perceive some risk than their younger counterparts (about 21%). No major differences are noted in the perception of some risk of getting HIV/AIDS by sex or family structure while those who reported ever having had sex are almost one and a half times more likely to perceive some risk than those who had not.

Nevertheless, reports of HIV/AIDS risk perception appear rather low. In the APHRC study in the slums of Nairobi, about 57% of the males and 61% of the females aged 15-19 years reported perceiving some risk of getting HIV/AIDS where some risk was defined as small, moderate or great. According to estimates from KDHS 1998, about 60% of males and 54% of females aged 15-19 years in the country as a whole perceived some risk of getting HIV/AIDS with only 0.1% reporting that they did not know in both cases. Only about 39% of males and 41% of females aged 15-19 years in the present study perceived such risk. Overall, about 24% reported “don’t know”. The large proportion reporting “don’t know” in this case could point to one of the shortcomings of using self-administered questionnaires i.e. the lack of opportunity to pose probing questions.

Significance tests for differences

The analysis so far points to a number of findings: First, there are age and sex differences in the perception of negative peer reaction to sexual indulgence while we do not see any major differences by family structure. Second, negative perception of parental/ guardian reaction shows differences by age but not by sex or family structure. Third, the perception of possible negative response to premarital pregnancy differs by age and family structure but not by sex. Fourth, while differences by age are noted in the perception of some risk of getting HIV/AIDS, there are no major variations by sex and family structure. Lastly, preference for later ages of sexual debut for both boys and girls shows variations by sex, but differences by family structure do exist only for preference for later ages of sexual initiation for boys. There are no major differences by age in the preference for later ages of sexual debut for both boys and girls. In this section, I carry out the Chi-square test of significance for the observed differences. Results are given in Table 4.

<Table 4 about here>

As the results in Table 4 indicate, there are no significant variations by family structure in the perceptions of negative reaction of the significant others to sexual indulgence, a finding that does not support my expectation as stipulated in the framework. Instead, differences by family structure are only statistically significant (at 95% confidence level) for perceived negative response to a premarital pregnancy, and also for preference for later ages of sexual debut for boys. Variations by age with regard to negative peer/ parental/ guardian reaction and possible negative response to a premarital pregnancy are as expected and are statistically significant at 99% confidence level. The same applies to age differentials in HIV/AIDS risk perception. Differences by sex fail to confirm my expectations with regard to perception of negative parental/ guardian reaction and possible negative response to a premarital pregnancy. However, variations in perceived negative peer reaction by sex are statistically significant at 99% confidence level as are variations in the preference for later ages of sexual initiation for both boys and girls.

Multivariate analysis

In this section, I explore whether perception of negative reaction from the significant others to sexual indulgence as well as of possible negative response to a premarital pregnancy are likely to be associated with preference for later ages of sexual debut and perception of the

risk of getting HIV/AIDS. To this end, I ran three logistic regression models. In the first and second models, preference for later ages of sexual initiation was the dependent variable separated into preference for girls' (first model) and boys' (second model) later ages of sexual debut. Earlier results indicated that a slightly higher proportion of the respondents preferred later ages of sexual initiation for boys than for girls and that while males tended to favor later sex for boys, more females favored later sex for girls. In the last model, the dependent variable referred to whether the respondent reported perceiving some risk of getting HIV/AIDS (either low or high risk). The model estimation procedures involve robust standard errors adjusted for possible non-independence of observations within schools. The results are given in Table 5.

<Table 5 about here>

Results from the first model indicate that perception of negative peer reaction significantly raises the odds of preference for later ages of sexual initiation for girls by about 1.8 times and for boys by about 1.7 times. One would have expected, according to the framework, that perception of negative parental/ guardian reaction would also be significantly associated with preference for later ages of sexual debut for young people, albeit not as strong as perceived negative peer reaction. But as it turns out, there is no association between perception of negative parental/ guardian reaction and preference for later ages of sexual initiation. Possible negative response to a premarital pregnancy, contrary to the stipulated framework, significantly lowers the odds of preferring later sex for boys and girls by about 0.6 times in each case. None of the variables (neither perception of negative reaction of the significant others nor possible negative response to pregnancy) seems to be strongly associated with HIV/AIDS risk perception unless we are willing to allow for the more generous 10% margin of error. In that case, only perception of negative peer reaction turns out to significantly lower the odds of perceiving some risk of getting HIV/AIDS. But even with such allowance, the association is in the direction that is contrary to what is expected.

Discussion

My first aim in this paper was to examine the perceptions of school-going adolescents regarding the possible reaction of the significant others to their sexual indulgence and of their own possible response to a premarital pregnancy. I have used Chi-square statistic to test whether any observed differences in the adolescents' perception by selected background

characteristics are significant. Perhaps the most significant finding to emerge from this is that there are no major differences by sex in the adolescents' perception of how they would likely respond to a premarital pregnancy. Almost a similar proportion of male and female adolescents indicated that they would respond to a premarital pregnancy in ways that the society or the government may regard as negative. Abortion (or assisting the girl to abort) is given as one possibility and this also shows no major differences by sex (about 8% of the females and 9% of the males). The fact that abortion is still illegal in Kenya and much of it is done illegally and under unsafe circumstances (Oguttu and Odongo 2001), it is tempting to view the adolescent perception of abortion in the light of such unfavorable conditions. Other studies have documented gender differences in adolescents' view of some of the socio-economic and health consequences of premarital sex and pregnancy (Barker and Rich 1992; Hulton et al 2000; Nzioka 2001). Female adolescents have been found to generally recognize negative socio-economic and health consequences of a premarital pregnancy while their male counterparts do not perceive such consequences for themselves, but rather for the girls.

Secondly, there are gender differences in the perception of negative peer reaction while no such differences are noted in the perception of parental/ guardian reaction. A higher proportion of females than males were likely to perceive negative peer reaction. Vanlandingham et al. (1995) in their study in Thailand found that males were more likely to deny that their peers influenced their behavior. This could possibly explain the findings of gender differences with respect to perceptions of negative peer reaction to sexual indulgence in the present study. But the fact that almost a similar proportion of males and females perceived negative reaction from parents/ guardians (though lower than the proportions that perceived negative peer reaction) could signify unanimity between the sexes regarding the perception of the role of parents/ guardians in their lives.

Differences by age indicate that younger adolescents were more likely to perceive negative reaction from the significant others than their older counterparts. They were also more likely to report that they would negatively respond to a premarital pregnancy. Some of the plausible explanations for these differences, which may still need to be proved empirically, could be that older adolescents may be prone to falsely believe that their peers or parents have no influence in their behavior. It could also be that most of them are already sexually active and do not experience any negative reaction from peers or parents.

The failure to observe any marked differences by family structure could be a problem of measurement. As already noted, the study by Pick de Weiss et al. (1991) among Mexican adolescents documented that the extent of parent-adolescent communication regarding

reproductive health issues combined with strong parental control was significantly associated with adolescent sexual behavior. Blake et al. (2001) found that interventions aimed at enhancing parent-child communications had some impact on a number of determinants of sexual behavior among middle school adolescents in the United States. Other studies in the sub-Saharan African region have shown that adolescents rarely receive the kind of information they need from their parents/ guardians regarding their sexuality (Barker and Rich 1992; Gage 1998). The lesson here is that it is not just the mere presence or absence of an adult within the family that matters, but rather the nature of openness in discussing reproductive health issues with young people. The proxy for family structure used in the present study, i.e. whom the respondent usually lived with, may therefore not be a good indicator of the extent of such communication.

The second purpose of the paper was to explore whether the perception of negative reaction of the significant others to sexual indulgence and of possible negative response to a premarital pregnancy are likely to be associated with preference for later ages of sexual debut for young people, and HIV/AIDS risk perception. The results from multivariate logistic regression analysis show that perception of negative peer reaction is strongly associated with preference for later ages of sexual debut for young people, but is weakly associated with perception of some risk of getting HIV/AIDS. Perceived negative parental/ guardian reaction, on the other hand, is not significantly associated with any of the dependent variables. This finding is in line with most studies that have documented stronger peer than parental influence on adolescent behavior (Aseltine 1995; Gage 1998; Vanlandingham et al. 1995; Pick de Weiss et al. 1991; Barker and Rich 1992). The strong association between perceived negative response to a premarital pregnancy and preference for later ages of sexual initiation for both boys and girls is in the direction that was not anticipated. This could be a problem of the direction of causality which cannot be established from the cross-sectional data. The lack of any significant association with HIV/AIDS risk perception could be an indirect one with other intermediating factors such as sexual experience having an important effect. But these are just plausible explanations which may still need to be proved empirically.

These findings should, however, be viewed in light of the study's limitations. First, given that the data are cross-sectional, I am unable to determine whether perceived negative reaction of the significant others to sexual indulgence or of possible negative response to a premarital pregnancy has any effect on preference for later ages of sexual initiation. There is also the possibility of the alternative pathway that cannot be determined from the cross-sectional data. Second, the respondents were school-going adolescents which means that the

views of out-of-school adolescents were not captured. Moreover, the findings remain relevant to only school-going adolescents in recognized government and private schools within Nairobi and may not be generalized to those who were enrolled in unregistered schools. The selection of students who participated in the study could also lead to the dominant opinions being of those with strong views regarding the questions asked. The possibility of getting different results if the selection of students were random, or in other urban or rural areas of Kenya cannot be ruled out.

The third limitation of the study has to do with the emphasis on psychosocial factors. This implicitly assumes that adolescents are rational and would adjust their behavior accordingly depending on perceived consequences of a particular behavior. However, existing literature point to the role of socio-economic, cultural, and genetic factors in shaping adolescent perception, decision-making and behavior (e.g. Hulton et al. 2000; Gage 1998). Fourth, the use of self-administered questionnaires has revealed some shortcomings especially with regard to missing information either because the respondent forgot or deliberately decided not to respond to a particular question. It also leads to a high rate of response with "don't know" owing to the lack of opportunity to pose probing questions. Lastly, there is the problem of the time factor. The time lag between data collection and the findings presented here could pose a few problems. Given that perceptions do change with time, the findings might have been relevant at the time the study was conducted but not now. Furthermore, reports of perceived later ages of sexual initiation could be affected by the impact of HIV/AIDS campaign programs which stress abstinence, fidelity and condom use so that respondents could likely report the information they had obtained from these programs. If sexual were fairly reported, one may argue that it would have been a better measure than perceived ideal age of sexual debut since it is more directly related to reproductive health outcomes.

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Table 1: Background characteristics of respondents

Characteristic	Percent	Characteristic	Percent
Age		**Family living arrangement**	
10-14	62.6	Both parents	68.8
15-19	37.4	Mother only	17.3
Sex		Father only	3.9
Male	50.8	Other relative	7.6
Female	49.2	Other	2.1
Level of schooling		Missing	0.3
Primary	68.6	**Boarder/day scholar**	
Secondary	31.3	Boarder	9.0
Missing	0.1	Day scholar	91.0
Religion		**Ever had sex**	
Christian	91.4	Yes	14.9
Hindu	1.1	No	84.9
Muslim	7.0	Missing	0.2
Other	0.3		
Missing	0.2	**N**	**3462**

Table 2: Percent distribution of respondents by perception variables*

Perception variable	Percent	Perception variable	Percent
Perceived peer reaction		**Likely response to pregnancy- males**	
Nothing	7.7	Help her abort	8.9
Laugh/ridicule	15.0	Run from her	9.3
Praise/admire me	5.3	Help her through	46.6
Follow my trends	1.1	Other	2.1
Despise me	24.6	Don't know	33.1
Rebuke me	2.5	**Ideal age of sexual debut for girls**	
Isolate me	14.8	Less than 14 years	3.8
Tell parents/teachers	15.8	14-19 years	26.8
Advise me	4.5	20-24 years	30.6
Other	3.3	25+ years	37.8
Don't know	5.6	Don't know	1.0
Perceived parental/guardian reaction		**Ideal age of sexual debut for boys**	
Nothing	2.1	Less than 14 years	3.4
Ashamed/not pleased	16.8	14-19 years	25.2
Punish/beat me	35.3	20-24 years	28.2
Chase me from home	21.5	25+ years	42.1
Advise/counsel me	11.8	Don't know	1.1
Force to get married	0.2	**HIV/AIDS risk perception**	
Quarrel me	2.6	No risk	37.2
Other	3.5	Low risk	11.1
Don't know	6.2	High risk	16.8
Likely response to pregnancy- females		Don't know	34.9
Give birth	70.1	**Number of cases**	
Get married	6.4	Peer reaction	3003
Abort	7.8	Parental/guardian reaction	3094
Run from school/home	9.9	Response to pregnancy-females	1631
Commit suicide	1.3	Response to pregnancy-males	1606
Other	2.8	Sexual debut for girls	3308
Don't know	1.7	Sexual debut for boys	3292
		HIV/AIDS risk perception	3374

*Proportions exclude missing cases

Table 3: Percent distribution of respondents by perceived negative reactions from the significant others, preference for later ages of sexual debut, likely negative response to pregnancy and AIDS risk perception according to selected background characteristics

Characteristic	Significant others		Later age for sex		Pregnancy response[a]	AIDS risk perception[b]
	Peers	Parents	For girls	For boys		
Age						
10-14	81.7	67.6	67.9	70.4	22.0	20.8
15-19	57.2	45.3	69.4	70.3	12.8	39.8
Sex						
Male	65.7	59.8	58.7	63.8	18.2	27.8
Female	79.5	59.3	78.4	77.1	19.0	28.1
Family structure						
Both parents	72.6	60.2	69.1	71.6	17.9	28.0
Single parent	73.4	58.3	66.6	66.6	21.8	27.3
Other	71.8	58.5	67.9	68.8	16.4	28.5
Level of schooling						
Primary	80.9	67.4	68.1	70.1	21.5	21.1
Secondary	54.2	41.4	69.2	71.0	12.4	42.8
Boarder/ day scholar						
Boarder	55.6	40.7	68.8	68.4	17.9	48.2
Day scholar	74.4	61.4	68.4	70.5	18.7	25.9
Ever had sex						
Yes	47.7	45.4	48.2	52.7	22.3	38.6
No	76.9	61.9	71.9	73.4	17.9	26.1
Total	72.7	59.6	68.4	70.4	18.6	27.9

[a]Includes both male and female responses

[b]Proportions refer to those who perceived some risk of getting HIV/AIDS i.e. either high or low

Table 4: Pearson Chi-square values for tests of significance of differences

	Significant others		Later age for sex		Pregnancy	AIDS risk
Characteristic	Peers	Parents	For girls	For boys	response	perception
Age	210.521***	147.259***	0.831	0.001	42.329***	141.456***
Sex	72.281***	0.065	148.765***	69.515***	0.346	0.027
Family structure	0.263	0.882	1.549	6.791**	6.306**	0.202

*p<0.10; **p<0.05; ***p<0.01 For age and sex, all df = 1; for family structure, all df = 2

Table 5: Odds ratios of preference for later ages of sexual debut and HIV/AIDS risk perception

Predictor variables	Later sex for girls	Later sex for boys	AIDS risk perception
Age			
10--14[R]			
15-19	1.23 (0.90-1.67)	1.09 (0.83-1.43)	2.36 (1.81-3.09)***
Sex			
Male[R]			
Female	2.61 (2.08-3.26)***	1.86 (1.47-2.35)***	1.02 (0.81-1.28)
Family structure			
Both parents[R]			
Single parent	0.89 (0.72-1.09)	0.77 (0.63-0.93)***	0.91 (0.73-1.12)
Other	0.87 (0.63-1.19)	0.81 (0.59-1.11)	0.87 (0.62-1.23)
Negative peer reaction			
No[R]			
Yes	1.75 (1.37-2.25)***	1.65 (1.35-2.03)***	0.84 (0.70-1.02)*
Negative parental/guardian reaction			
No[R]			
Yes	0.89 (0.72-1.12)	0.96 (0.77-1.21)	0.87 (0.69-1.10)
Negative pesponse to pregnancy			
No[R]			
Yes	0.62 (0.49-0.77)***	0.62 (0.48-0.80)***	1.10 (0.87-1.39)

*p<0.10; **p<0.05; ***p<0.01
[R]Reference category
95% confidence intervals are given in parentheses