

HIV Risk Perception and the Timing of Adolescent Sexual Debut in Southern Malawi

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In many countries in sub-Saharan Africa, early adulthood is the period with the greatest HIV incidence, particularly among young women. Adolescence, therefore, has taken on particular significance in AIDS prevention campaigns: delayed entry into sexual behavior shortens the period over which young people may be exposed to HIV, and many public health officials assume that reducing risky sexual behavior amongst adolescents will establish less risky sexual behaviors across the life course (Carael and Glynn 2007). Internalizing the perception that one may be vulnerable to HIV is often seen as central to motivating less risky sexual behavior (Green and Witte 2006). However, research has often found adolescents to be subject to a strong optimistic bias, whereby few are willing to see themselves as vulnerable to any negative health outcomes (Jessor 1998).

Unfortunately, few longitudinal data sources exist to properly examine the relationship between adolescent HIV risk perceptions and the onset of risky sexual behavior. Instead, many studies have examined how well adolescents are able to identify their risk status, given their sexual activity at the time of the survey. In some contexts, such as Mozambique (Prata et al. 2006) and South Africa (MacPhail and Campbell 2001), most adolescents underestimate their risk of becoming infected with HIV, whereas studies in Tanzania (Maswanya et al. 1999) have found that adolescents who are engaged in high risk sexual behavior are more likely to identify themselves as being at high risk of becoming infected. More recent longitudinal data from the Cape Area Panel Study in South Africa (Anderson et al. 2007) not only found that adolescents who had ever had sex were more likely to report high risk perceptions, but that perceived risk perceptions longitudinally predicted entry into first sex over a two year period.

While the majority of studies have focused on the cross-sectional association between adolescent HIV risk perceptions and sexual behavior, most have neglected the potential confounding role of school participation. Given that many studies have found lower levels of sexual activity among students as compared to adolescents who are not enrolled in school (Magnani et al. 2001; Biddlecom et al. forthcoming, NRC-IOM 2005), it is important to consider how school participation may interact with HIV risk perceptions. To the best of my knowledge, no studies have examined the association between school enrollment status and HIV risk perceptions. It is plausible that students may report either lower risk perceptions (because they

are less likely to be sexually active) or higher risk perceptions (because they have greater exposure to AIDS education campaigns and are better prepared to critically assess their own risk profile (e.g. Prata et al. 2006)). By integrating schooling experiences and outcomes into the assessment of adolescent risk perceptions and sexual behavior, this paper will contribute an important missing element to the literature.

5.1. Data and Methods

This paper will use longitudinal data collected by the Population Council in southern Malawi. The first round of data was collected in Spring 2007, with a one-year follow-up completed in 2008. The original sample consists of 14-16 year olds identified in a two part survey design, with a 92 percent follow up rate at the second survey round. In the first part of the survey design, 1,675 students were randomly sampled from the enrollment rosters at 60 primary schools in Machinga and Balaka districts. In the second part of the survey design, an additional 853 14-16 year olds who were no longer enrolled in school were identified. These respondents were identified by asking the head teachers and sampled students to recommend out of school youth for inclusion in the sample.

This survey focuses on the role of school quality and experience in shaping the transition to adulthood. All respondents completed an in-depth education history, with currently enrolled respondents answering an additional questionnaire module on the school environment, teacher behavior, and their educational motivations and attitudes. Furthermore, all respondents completed a detailed health module which included questions about current health status and knowledge and attitudes about HIV/AIDS. Finally, all respondents completed a detailed module on sexual behavior, violence, and abuse that was administered privately with a hand-held audio computer-assisted self-interviewing system (ACASI).

The analysis in this paper will focus on the relationship between HIV risk perceptions, schooling outcomes, and sexual behavior, in particular the longitudinal association between these variables. Risk perceptions were measured with two questions: (1) “How worried are you currently that you might catch HIV/AIDS?” and (2) “Do you think that your chances of getting HIV/AIDS (in the future) are great, moderate, small, or that you have no chance at all?”. Focusing on these two measures of HIV risk perception, this paper will use logistic and fixed effects regression models to examine (1) the association between HIV risk perception and

schooling outcomes, (2) the association between HIV risk perception and the subsequent onset of sexual activity, and (3) the impact of sexual onset on HIV risk perceptions. This paper will build on prior studies of this topic (e.g. Anderson et al. 2007) by examining the potential role of school experiences and by interacting risk perception and sexual debut with the respondent's enrollment status. Given the significant difference in sexual behavior between students and non-students (Biddlecom et al. forthcoming; NRC-IOM 2005; Magnani et al. 2001), school enrollment status may influence both adolescent HIV risk perception and the timing of sexual debut in ways that have not been acknowledged in the literature. Therefore, this paper will use hierarchical linear modeling to control for common experiences and attitudes within each school cluster that may influence both HIV risk perceptions and adolescent sexual behavior and to control the fixed and unobserved characteristics of individuals that might bias the analysis (Rabe-Hesketh and Skrondal 2005).

The models will control for a number of socio-demographic characteristics. Careful attention has been given to household structure and recent deaths within the household; changes in family structure and survival may have important associations with HIV risk perception, sexual behavior, and school continuation and will therefore be included in the models. I will also control for changes in household asset ownership and any positive or negative economic shocks that occur during the inter-survey period. The health module of the survey will also allow me to include respondents' knowledge about HIV/AIDS and reproductive health. To the extent that schooling status and experiences may influence HIV risk perception and sexual behavior, I will be able to examine changes in the individuals' school experience (e.g. class ranking and grade progression; interaction with teachers; school engagement) and to use hierarchical models to control for possible school effects.

Preliminary Analysis

Nearly twice as many students as non-students reported in 2007 that they had a "great" chance of becoming infected with HIV in the future (Table 1), although there was relatively little difference between female students and non-students in the percentage who thought that they had no risk. This variation in the direction of association between school enrollment status and measure of HIV risk perception is unexpected, and will be explored in this paper. It is possible

that respondents who are currently enrolled in school may have had greater exposure to AIDS education campaigns, leading them to have better knowledge of HIV transmission modes and a greater ability to internalize their actual or potential risk. The key interests of this paper are whether a higher perceived likelihood of catching HIV encourages adolescents to postpone their first sexual experience to an older age and whether or not there is an association between HIV risk perception and the adolescent's educational expectations and outcomes. It is possible that the distribution of sexual activity by enrollment status may explain the variation in risk perception. At the time of the first survey in 2007, more than forty percent of males reported that they had ever had sex, regardless of school enrollment status. Whereas 20 percent of female students had ever had sex, 38 percent of female non-students had ever had sex (Table 1). As the second round of data becomes available, I will examine whether HIV risk perceptions are associated with the transition to first sex amongst those who have never had sex, and whether this effect varies by gender and school enrollment status.

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Table 1 Socio-demographic characteristics of 14-16 year old students and non-students in the Southern region of Malawi, Malawi School Quality Survey (MSQS) 2007

Variables	Students		Non-Students	
	Males	Females	Males	Females
<u>Key variables</u>				
Likelihood of HIV infxn (%)				
Great	20.0	25.6	14.5	11.1
Moderate	9.8	8.0	10.7	12.5
Small	26.0	20.0	40.3	28.4
No Chance	43.0	44.5	31.2	43.9
% Ever had sex, 2007	40.2	19.8	43.1	38.0
<u>Socio-demographic</u>				
Mean grades completed	6.3	6.6	4.5	4.8
% Female household Head	28.0	32.1	24.4	18.0
% Maternal orphans	11.3	12.5	20.4	20.0
% Paternal orphans	22.4	23.0	34.7	31.0
% Live in household with mud floor	74.9	74.8	90.7	89.6
% Live in household that owns a bicycle	71.2	65.5	52.8	39.8