

Marriage, Schooling, and Excess Mortality in Prime-Age Adults

Evidence from South Africa

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Introduction

The institution of marriage plays a role in determining one's risk of exposure to HIV. Since the transmission of HIV in the population is mainly through sexual activity, avoiding infection depends on risk-avoiding behavior. If the number of sexual partners is reduced after marriage, marriage may work as an institution to limit risks of HIV infection in society.

This study undertook preliminary empirical assessment of recent panel data from South Africa. Results show that excess mortality is concentrated in unmarried adults aged 20–39 among both men and women (with a larger increase in mortality rate among women than men). Thus, the choice of when and who to marry appears to be related to risk of HIV exposure, leading to the authors to the primary question of this study; to determine the effect that schooling has on AIDS and excess mortality through changes in marriage behavior. This paper tests the hypothesis that schooling affects when one marries and thus impacts the risk of AIDS-related mortality.

The effect of schooling on marriage-age could be negative or positive. On the one hand, since educated individuals have incentives to secure returns to their human capital in the future, more education implies earlier marriage. On the other hand, education increases the opportunity costs of marriage especially for women, who will be pressured to spend more time at home. Thus, schooling may work to keep women out of marriage and thus increase AIDS-related mortality risk.

Our hypothesis thus becomes an empirical question. The effect of education on marriage age depends on incentives. Here wage rate in labor market plays two opposite roles. First, a higher wage means high value of human capital. Thus, women have a larger incentive to protect their human capital from the HIV risks. Second, a higher wage also implies high opportunity cost of marriage. After marriage, women may need to give up some of their valuable time, increasing the share of time that they spend on housework and child rearing. This means women who have high wages have a small incentive to get married, which increases the risks of getting HIV infected in our hypothesis. If the latter incentive is greater than the former, schooling may increase the risk of exposure to HIV among women.

Empirical Results

The empirical analysis of this research uses an identification strategy for mortality shock based on the following

observation: before 1980, fertility decisions and mortality incidences in South Africa were not related to the coming AIDS epidemic in the mid 1990s. This condition enables me to argue that cohort-specific factors among those who were ages 20 or above in the mid 1990s (when the first round of the data was collected) are not correlated with the AIDS epidemic. Therefore, after controlling the non-AIDS mortality rate, the cohort-specific mortality changes in the period of 1998–2004 can be mainly attributed to the AIDS epidemic, and are treated as exogenous shocks to the adult population. In the analysis to estimate the cohort-specific schooling effects in the mortality equation, I also control for household-level fixed unobservables and age (cohort)-specific unobservables in order to base the statistical inferences on within-household and within-age group variations in mortality incidence and schooling.

However, we need to understand that there are only limited sources to control the endogeneity of schooling in our sample. Potentially education attainment is correlated with individual-specific unobserved error components, which represent their ability, talent, health and motivations. These unobserved factors also affect marriage decision among women, and also their sexual activities (thus, their exposure to HIV risks). Also, in South Africa the democratization of the education system in 1994–1996 along with the abolition of apartheid, potentially affected educational attainment in our sample—though this change was too recent to provide exogenous variations of education among our target age groups (ages 20–44 in 1998).

Empirical results show that schooling increases excess mortality among women, but not among men. This gender difference is consistent with their marriage behavior. The probability of marriage decreases among educated women if the direct cost of marriage increases (that is, if *Lobola*—a gift from the groom to the bride's family—payment is the norm in the community). For men the probability of marriage is lower than for women. In contrast to women, educated men are more likely to get married when the direct cost of marriage increases.

Though we find significant effects of education in delaying marriage among women, empirical analysis showed that education is positively associated with excess mortality among prime age women. This is not found among men. The education effect is shown to be increasing and concave in the excess mortality among women.

The inclusion of marriage status in the mortality equations reduces the education premium, which is also con-

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sistent with the negative effect of education on marriage probability among women. However, the education premium remains robust even after including marriage status.

Away from our hypothesis, the above positive correlation between excess mortality and education is consistent with findings in the studies that analyzed AIDS deaths at the early stage of the epidemic progression when knowledge about HIV/AIDS was not complete among the public. The rich and wealthy had a higher probability of being infected and dying. However, in our empirical setting, it is unthinkable that the educated women in South Africa know less about HIV/AIDS than uneducated women.

In sum, schooling increases the opportunity cost of marriage for women, which delays marriage and increases their mortality risks in high HIV-prevalence societies, but has the opposite effect on men.

Policy Recommendations

This analysis demonstrates the need to understand the role of the marriage market, labor market, schooling investments, and youth behavior in determining AIDS-related excess mortality. The marriage institution potentially protects the youth from excess mortality, but the interactions between marriage and labor markets complicate the role of schooling in determining excess mortality. This finding is also policy relevant as we need to pay special attention to the differentiated mortality risks between women and men to effectively reduce gender-specific AIDS-related excess mortality—and we need to take into account institutional and market settings when predicting the impact of AIDS on mortality rate.



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About RENEWAL

Facilitated by the International Food Policy Research Institute, RENEWAL is a regional “network-of-networks” in Sub-Saharan Africa. Currently active in five “hub” countries (Malawi, Uganda, Zambia, South Africa, and Kenya), RENEWAL comprises national networks of food and nutrition-relevant organizations (public, private, and nongovernmental) together with partners in AIDS and public health research. RENEWAL aims to enhance understanding of the worsening interactions between HIV, food security, and nutrition, and facilitate a comprehensive response to these interactions. RENEWAL is grateful for support, at present, from Irish Aid, the Swedish International Development Cooperation Agency (SIDA), the International Development Research Centre (IDRC, Canada), and the United States Agency for International Development (USAID).

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