FIGURE 1. Conceptual model for influences of family context, school enrollment and relationship status on young women’s risk of coerced sex

Demographic and household variables
- Age
- Community
- Household wealth
- Household composition

Family process variables
- Behavioral control
- Relationship quality
- Financial support
- Conflict

School enrollment status

Relationship experience

Coerced sex

capital, Accra, with that of the Volta region. Each has a population of around 15,000. The towns differ, however, in the prevalence of HIV. Although Ghana as a whole has a relatively low HIV prevalence of 1.4% among adults aged 15–49, one of the study communities (the town of Agomany, Lower Manya Krobo District, Eastern Region) has suffered a severe localized HIV epidemic believed to have been driven at least in part by the circular migration of young women from this community to Abidjan, the capital of neighboring Cote d’Ivoire, during the 1980s and early 1990s. The most recent sentinel surveillance data estimate that the HIV prevalence among pregnant women attending an antenatal clinic in this area is 10.4%. The other study community (Juapong) is 40 km away in a district (Central Tongu, Volta Region) where 2012 sentinel surveillance data estimate the HIV prevalence among pregnant women at 2.8%.

In the summer of 2010, field teams visited every dwelling structure and enumerated all unmarried youth aged 13–14 (the younger cohort) or 18–19 (the older cohort) living in these towns. The younger cohort was intended mainly for prospective analyses of the transition to first sex, while the older one was intended primarily for analyses of outcomes such as family formation and multiple partnerships, which are more common among older youth. The resulting sampling frame contained 1,823 names. We drew a simple random sample of 1,714 youth from this list. Of these, nine were ineligible owing to age or marital status; 430 could not be relocated, declined to participate or were of unknown disposition; and 1,275 agreed to participate and were interviewed, yielding a response rate of 75%.

Twenty months later, field teams conducted Wave 2 interviews with 1,206 of the original participants, for a follow-up rate of 95%. Wave 1 and 2 interviews each lasted approximately two hours and covered a range of topics, only some of which figure in the current analyses. Moreover, the current study focuses on female respondents, of whom there were 700 at Wave 1. The protocol was approved by institutional review boards at George Washington University and the Noguchi Memorial Institute for Medical Research at the University of Ghana.

Measures
We focused on two dependent variables: coerced sex prior to Wave 1 and reported at that interview, and coerced sex during the period between waves and reported in the Wave 2 interview. We analyzed both of these variables because they have different advantages and disadvantages with respect to inference. The main advantage of the second variable is the clear temporal and, therefore, potentially causal ordering. In examining associations between independent variables measured at Wave 1 and outcomes occurring later, there is little reason for concern about reverse causation (although other sources of spuriousness are possible). However, fewer instances of coerced sex were reported between waves than prior to Wave 1, and we may therefore have more statistical power to detect cross-sectional associations than prospective ones. Moreover, an implicit assumption of the prospective analysis is that independent variables measured at Wave 1 accurately characterize respondents’ circumstances during the period between waves. To the extent that this is not true—that is, that the independent variables change over time—Wave 1 measures will function as imperfect proxies for circumstances between waves. Because this is a source of possible downward bias in associations measured prospectively, we therefore analyzed both versions of the dependent variable and based our conclusions on both sets of results.

The variable of coerced sex prior to Wave 1 was assessed as follows. Partway through the Wave 1 interviews, respondents were asked if they had ever had sexual intercourse. Those responding affirmatively were then asked, “The first time you had sex, would you say that you wanted to have sex, it just happened, you were pressured into doing it, or you were forced to do it?” Any respondent who indicated that her first experience of sexual intercourse was either “pressured” or “forced” was categorized as having experienced coerced sex. Later in the interview, and regardless