Union Type and Sexual Exclusivity in Nairobi Slums¹

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Sexual exclusivity is a prominent feature of the institution of marriage (Nock 1998). Cherlin (2000) has argued that benefits of marriage, such as those that derive from pooling of resources and from economies of scale may also be available with non-marital cohabitation. Nonetheless, only marriage provides enforceable trust and social status. Enforceable trust develops from making a public commitment to the relationship and engages the commitment of friends and relatives to the cohesion of the union. We believe enforceable trust contributes to an increased sexual exclusivity in marriage as compared to cohabitation.

The determinants of sexual exclusivity have important implications in countries with high HIV prevalence such as Kenya. This paper aims to contribute to the understanding of determinants of sexual exclusivity by examining levels of reported sexual exclusivity by marital status, co-residence, or the presence of cowives.

The difference between marriage and cohabitation can be vague in Africa. African demography conventionally uses the category "in union," which includes individuals who are married as well as those who cohabit. Categorizing the complex variations of unions in Africa can be difficult, thus the use of co-

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residence to delineate the beginning of a union creates a needed differentiation (National Academy of Science 1993).

Union formation in sub-Saharan Africa can vary greatly by lineage and ethnic tradition (Meekers 1992). The process of entering into a marriage often is not a distinct event and may take years depending on the couple's lineage and tradition. This makes "marriage" harder to capture in quantitative surveys. Aside from marriage and cohabitation, "visiting unions"— where married individuals do not co-reside— and polygamous unions are not uncommon in parts of sub-Saharan Africa (Meekers 1992).

Literature from western countries suggests that cohabitation is associated with lower levels of monogamy than marriage (Waite 1995). Given the increased importance of understanding sexual exclusivity in high HIV prevalence countries, we will evaluate the differences in sexual exclusivity between individuals who are married and co-residing, married while living separately, co-residing outside of marriage, widowed, and divorced or separated by disaggregating the conventional "in union" category.

There is evidence that economic hardship leads to instability in unions (Raley 2000) and to transactional sex² (Blanc 2001). Similarly, evidence points to high levels of multiple sexual partnerships among married women in Kenyan

² Transactional sex, where a woman engages in one or more relationship that involves the exchange of sexual relations for money, food, or favors to meet her needs, is a survival mechanism according to focus groups participants in the Nairobi slums {Dodoo, Sloan, et al. forthcoming #2407}.

slums as a form of sexual capital. Increased instability in unions and the need to engage in transactional sex are two factors that may decrease sexual exclusivity. We will look at the differences in reported sexual exclusivity by union type among those suffering severe economic hardship—those residing in Nairobi slums.

Marriage and union formation in Kenya

Caldwell, Caldwell, and Quiggin (1989, p187) have long suggested that there is a "distinct and internally coherent African system embracing sexuality, marriage, and much else" that centers on the importance of lineage and fertility. Given this potentially distinct system surrounding marriage, it is important to test the extent to which western theories on marriage are applicable to sub-Saharan Africa. This becomes particularly important if one is to assume that marriage has protective effects from HIV because of increased sexual exclusivity.

Marriage and Co-residence

Marriage can be hard to define in sub-Saharan Africa (National Academy of Science 1993). Reviewing how national laws regulate unions provides insight on marriage in Kenya. There are five forms of marriage in Kenya: customary, civil, Christian, Islamic, and Hindu (Kenya: Seminar on Marriage, Divorce, and Inheritance 1996; Mucai-Kattambo, Kabeberi-Macharia, and Kameri-Mbote 1995). The legal age at which one can marry in Kenya is 18 years, or 16 with the consent of a guardian. Despite regulation, Hindu ceremonies have reportedly united grooms with brides as young as 12 years old. Under Islamic law, all those who have reached puberty are eligible for marriage.

Customary law assumes that consent to all future sexual activity is given at the time of marriage (Amnesty International 2002). This suggests that married women may be less capable to refuse unwanted sex with their spouses than are women who are not married to their sexual partners. Whether this assumed consent applies to cohabitating unions as well is uncertain.

Cohabitating unions are not recognized as marriages by Kenyan law (Kenya: Seminar on Marriage, Divorce, and Inheritance 1996). Nonetheless, cohabitation is regarded as a step in the marriage process and may sometimes be hard to distinguish from a formal marriage (National Academy of Science 1993). Despite the lack of legal recognition for cohabitation, the Kenyan parliament has proposed an act on domestic violence that would apply to those who cohabit as well as those in marital unions (Amnesty International 2002). However, reports from a seminar on Marriage, Divorce, and Inheritance suggest that many women do not feel that cohabitation deserves the same social status as marriage (1996).

Polygamy

Polygamy is a distinctive feature of marriage in Africa. Polygamous unions remain legal under Kenyan law, yet are not the dominant union structure in Kenya. Polygamy has become less common in Nairobi, declining from 22 percent in the late 1970's, to 15 percent in 1989, to 11 percent in 1993 (Ezeh 1997). There is an increasing trend for polygamous men in urban areas not to be co-

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residing with their wives (Ezeh 1997). This suggests that some of the women with co-wives may not co-reside with their spouses thus they may lose the benefit of resource pooling and economies of scale from which co-residing partners benefit.

Union Dissolution:: Widowhood, Separation and Divorce

Women in monogamous unions may seek divorce from their husbands (Mucai-Kattambo, Kabeberi-Macharia, and Kameri-Mbote 1995). Women can obtain legal separation or divorce from their husbands under the grounds that he is an alcoholic, drug addict, has a sexually transmitted disease, has unlawfully wounded her, or has failed to provide for her or their children. However, under customary and Muslim law, women often lack the ability to initiate the dissolution of a union.

Widows have the right to her husband's property until she remarries, although few rural women actually receive their inheritances (Mucai-Kattambo, Kabeberi-Macharia, and Kameri-Mbote 1995). The lack of inheritance has been credited for widows moving to urban locations to seek employment so that they may meet their needs.

Sexual Exclusivity

Western theories on marriage suggest that marriage is an institution through which, among other things, sexual regulation can be achieved (Popenoe 1993). Public health specialists emphasize that the sexual transmission of HIV can be reduced by increasing abstinence, sexual exclusivity, and condom use (World Bank 1997; Reinecke, Schmidt, and Ajzen 1996). Most HIV prevention programs promote this multi-component approach to behavior change, although abstainance and sexual exclusivity are getting increased attention and funding from sources such as the U.S. Agency for International Development because they are the preferred methods of the Bush administration (Lee 2002). In light of this increased attention and funding, understanding the determinants of those who are "being faithful" has become increasingly important.

Studies on Uganda's declining HIV prevalence show that the decreasing national HIV prevalence was concurrent with increasing proportions of the population reporting that they are married and decreasing proportions of individuals reporting two or more partners in the past year (Singh, Darroch, and Bankole 2002). Given theories on marriage's effect on sexual exclusivity, one assumes that if more individuals are married, there will be a decrease in the proportion of individuals at high risk for HIV infection due to having multiple partners. No studies have been able to show a causal link between entrance into a union and lower HIV risk. In fact, research in Uganda has shown that husbands are more likely to bring HIV to marital unions than are wives (Carpenter et al 1999). Further, women in serodiscordant marriages—those where one spouse is HIV positive and the other is not— become infected twice as quickly as men with infected spouses.

HIV in Kenya

An estimated 15 percent of Kenyans aged 15 to 49 are HIV positive (UNAIDS 2002). While HIV levels remain higher among sex workers and patients with sexually transmitted infections (STIs), HIV levels among women attending prenatal clinics in Nairobi have increased from 3 percent in 1987, to 25 percent in 1995, and decreasing slightly to 17 percent in 1999.

A cure or vaccine for HIV has yet to be discovered, thus prevention is the only way to curb the epidemic (World Bank 1997). As discussed above, the main HIV prevention messages encourage individuals to abstain, to be monogamous, and to use condoms. In 1998, approximately one in five females and 42 percent of males aged 15 to 49 in Kenya reported having more than one partner in the previous year (UNAIDS 2002).

Young women in Kenya have higher levels of HIV infection than men in their cohort (Glynn et al. 2001). Little control over sexual relations, reproductive tracts that are more susceptible to infection than men's, and patterns of sexual networking may contribute to these higher levels of infection (Ankrah 1991; UNAIDS 1999). Patterns of sexual networking that may contribute to higher levels of sexual networking include a tradition of young women partnering with and marrying older men (cross-generational sex), and the taking of sugar daddies.

In a context where HIV prevalence is high, women's inability to refuse sexual activity or negotiate condom use with their spouses coupled with

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evidence that when men are HIV positive their wives seroconvert-- become infected – quickly, the potential costs associated with marriage become acute. In the face of such costs, it is increasingly crucial to evaluate the benefits that may be reaped from assuming marriage equates preventive behavior.

Evaluating an expansive list of the costs and benefits of marriage remains outside the scope of this paper. Nonetheless, we attempt to cover one positive feature of marriage that has been supported by western theory: institutionalized sexual exclusivity. The Nairobi slum data offer a unique perspective because if cohabitation can be seen as a step towards marriage or union formation, cohabitation may offer more institutionalized sexual exclusivity than those with dissolved marriages, while less exclusivity than it offers those who are "married." Further, the unique role that polygamy may have in predicting sexual exclusivity remains elusive. Data

The data used in this study stem from the 2000 Nairobi Cross-Sectional Slum Survey (NCSS), a representative survey of the population residing in Nairobi's slums. The African Population and Health Research Center (APHRC) collected data between February and June of 2000 to inform a reproductive health project in Nairobi's slums. The questionnaire covered various demographic questions including those on household characteristics, partner types, fertility preferences, reproductive and sexual history, contraceptive knowledge and use, and immunization and health.

APHRC used the 1999 Kenyan Census enumeration to draw a crosssectional sample representative of those living in Nairobi's slums. A two stage stratified sampling plan was used; 98 enumeration areas (EA) were selected in the first stage, 5463 households were selected from the EA in the second stage. APHRC interviewers used Central Bureau of Statistics maps to locate the households selected for interviews. In each selected household a household questionnaire was administered to identify eligible respondents. All females aged 12 to 49 and males aged 12 to 24 who slept in the household the previous night were considered eligible and were interviewed.

We limit our analysis to women who have ever been married or are in a union. We exclude those who married or entered co-residential unions after 1999 so that union status is consistent for the year for which sexual exclusivity is measured. This sample provides information on 1438 married, co-residing women, 142 married not co-residing, 87 women who cohabit, 101 divorcees, 99 widows and 157 separated women.³ The questionnaire did not provide a definition for union type – respondents were responsible for self-classifying as married, cohabiting, not in a union, widowed, divorced, or separated.

Indicators

The variations on union type in Nairobi are extensive, including spouses who may or may not co-reside, and those part of polygamous unions. This variation is also found among those in informal or cohabitating unions. Similarly, not all unions are permanent --- women may be widowed, divorced or separated. Most of the women in our sample are in monogamous, co-residing marriages. However, the data show enough variation in union type to explore the variation in outcomes for sexual exclusivity.

The survey allows us to differentiate marital status as those who report being married, those who report living with a man, or those who report not being in a union.⁴ The survey distinguishes between those women who report having co-wives and those who report not having co-wives.⁵ Women who reported not being in a union were asked if they ever had been in a union, and if so, if they were widowed, divorced, or separated. Sexual exclusivity is operationalized as reporting one or no sexual partners in the past year.

³ Fourteen women reported that they lived with a man when asked their marital status, and then reported that their partner resides elsewhere. These women were dropped from the sample. Women who had previously been co-residing, but no longer co-reside were also excluded from our sample. One woman who was co-residing did not report if she had co-wives, so she was excluded from our sample.

⁴ Are you currently married or living with a man? (1: married, 2: living with a man, 3: not in union)

⁵ Does your husband/partner have any other wives besides yourself?

Our model controls age and education. Age is coded as those aged 19-39 (0) and those aged 40-49 (1). This coding allows us to control for the potential differences that emerge between those women who have finished reproduction and those who are in or are entering their reproductive lives. We would expect those who are older and have finished their reproductive lives to perhaps be less likely to have multiple partners.

Bi-variate analysis reveals that 20.8% of divorced women reported more than one partner in the past year along with 20.4% of separated women (not shown). We conducted a Wald test to determine if there are significant differences between the two indicators. The Wald test suggested that divorced and separated should be considered together in our multivariate analysis (not shown) so we created a variable indicating if the respondent is divorced or separated. There is no indicator for socioeconomic status because all of the individuals in the sample reside in urban slums and are assumed to be of low socioeconomic status.

Logistic regression equation=Ln (p/1-p)= $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7$

Model:

- $\beta_1 X_1$ = Married, living seperate
- $\beta_2 X_2$ = Co-residence (not married)
- $\beta_3 X_3 =$ Co-wives
- $\beta_4 X_4 =$ Widowed
- $\beta_5 X_5 = \text{Divorced/separated}$
- $\beta_6 X_6 = \text{Older}$
- $\beta_7 X_7$ = Secondary or higher education

The chi-squared for the goodness of fit test for our model was 0.74 (not shown), so we fail to reject the null hypothesis that that the differences between the observed and expected outcomes happened by chance.

Sample characteristics

Over two thirds of our sample are married and co-residing (71%), seven percent are married with a spouse who lives elsewhere, and four percent are cohabitating (table 1). Five percent of the women are widows and thirteen percent are divorced or separated. It is important to note that not all women in unions or married actually co-reside. A large majority of the sample is married in part because the age groups where few women would be married, namely those under age 19, were excluded.

Table 1 about here

The large majority of our respondents do not have co-wives (89%). Eleven percent of women report having co-wives, which is just higher than then national average of 9 percent (NCPD, CBS, and MI 1999).

Only 5 percent of our sample reported having two or more partners in the past year. Any indicator of sexual exclusivity must be regarded as a sensitive issue and may subject to a strong desirability bias. Our sample has substantially lower levels of reporting multiple partnerships than were found in a national survey (UNAIDS 2002). The effect of a social desirability bias may have been more severe because of the close quarters in which the interviews took place, which allow for little privacy from spouses, cohabitating partners, or neighbors. Further, our survey relies on self-reported data collected through in-person interviews.

Just over half the sample (52%) is aged 20-29. A third of our respondents were aged 30-39 (32%), and about one in ten was aged 40-49 (11%). This younger age structure is consistent with the age structure reported for Kenya by the US census (IDB Population Pyramids 2002) and with the age structure of other countries that have yet to complete their fertility transition. Few women were aged 12 –19 (5%), which is to be expected because only those in unions or who have been married are included in our sample.

Our sample exhibits a low level of educational attainment with two thirds (68%) reporting either no schooling or only primary education. This is not unanticipated as the sample is representative of those residing in urban slums, households for whom school fees may be prohibitive.

Results

Number of partners by union formation

More women who were divorced or separated reported having two or more partners (21%) in the past year than women who were cohabitating (12%), or married and living together (1%) or married living separately (2%, p<.001, table 2). This is consistent with the idea that marriage brings greater sexual exclusivity. Similarly, it is consistent with the belief that co-residence may decrease one's freedom to engage in multiple relations, thus increasing sexual exclusivity. Five percent of those who have co-wives reported multiple partners in the past year.

Table 2 about here

A lower percent of younger women (aged 12 to 19 and aged 20-29) reported having two or more partners in the past year (1% and 3%, respectively) than older women (7% for those aged 30-39; 5% for those aged 40-49, p<.01). This may be because older women may be more likely to be separated or divorce than younger women. A smaller proportion of women with secondary or higher education reported multiple partners in the past year (3%) than those with primary or no education (5%, p<.05).

Odds Ratios of Having Multiple Partners

Table 3 shows the results of logistic regressions to predict the likelihood of multiple partnerships in the past year. The reference category in the model is women who are married *and* living with their partners. The model includes dummy variables for being married while living separately, co-residing outside of marriage, being in a polygamous union, being widowed, and being divorced or separated.

Table 3 about here

Model one shows that women who are not married are more likely to report multiple partners in the past year. Specifically, women in co-residing unions were eleven times as likely to report multiple partners in the past year than married, co-residing women, controlling the other variables in the model (p<.001). Women who are widowed were 17 times as likely to report multiple partners in the past year and women who were divorced or separated were 34 times as likely to report multiple partners as married, co-residing women. This finding is consistent with Cherlin (2000), Nock (1998), Waite (1995), and other authors' theories that marriage has higher levels of sexual exclusivity than other union types. Our indicator for women who are married, yet whose spouses reside elsewhere did not have a significant relationship with the number of partners in the past year.

Our finding that those who cohabit are less likely to have multiple partners in the past year is consistent with the belief that cohabitation allows partners to have "perfect" information about each other's behavior without the constraints of marriage. This may be a time for partners to decide if they will commit to a marriage, in which case cohabitators may be on good sexual behavior, thus reducing their likelihood of having multiple partnerships. Similarly, co-residence may decrease one's ability to maintain multiple sexual relations without the co-residential partner's knowledge.

Women who were widowed or divorced/separated may face less social stigma associated with having multiple number of partners. Nonetheless, widows had a lower odds ratio of having multiple partners than those divorced or separated. This may reflect that some widows depend on their late spouse's family for financial support and therefore face more pressure to abstain from sexual relations. In fact, 30 percent of the widows in the sample reported not engaging in sexual relations in the past year as compared to 3 percent of the rest of the sample (p>.001, not shown).

Women who have co-wives were substantially more likely to report they had two or more partners in the past year, after controls were added. These women were four times as likely to have had two or more partners in the past year than other women (OR=4.1 p<.01). We suspect that this relationship did not emerge in the bivariate analysis because the indicator included all women who did not report having co-wives (including divorced/separated), but after union type was controlled, the relationship between having co-wives and more than one partner in the past year became apparent. These results are surprising because it would seem logical for women in polygamous to follow more traditional gender roles that would highly restricted their number of partners. On the other hand, one might expect that unions in which the man does not maintain sexual exclusivity with one woman might decrease his wives' propensity to remain sexually exclusive.

Our findings appear to support Waite's belief that cohabitation is associated with lower levels of monogamy than marriage (1995), possibly because it lacks enforceable trust. Nonetheless, cohabiters remain less likely to report multiple partners in the past year than women who were not in cohabitating unions. This may be because the nature of these women's living conditions allows their partners to observe and regulate their sexual behavior. Co-residence may also reflect a higher level of emotional commitment (which we were unable to measure) to the relationship and to sexual fidelity.

Discussion

Despite governmental, nongovernmental, and multilateral efforts, Kenya has one of the highest estimated HIV prevalence in the world (UNAIDS 2002). Condom use remains low in Kenya, therefore it is important to investigate other protective behaviors that individuals may use to lower their risk of infection, such as monogamy. This requires we explore the prevalence of monogamy and the extent to which it varies from individual to individual. Theories of marriage suggest that those in marital unions are more likely to have fewer partners and our data appear to support this theory.

Women have been considered a gender at risk largely because they have little control over their partners' behavior (Seidel 1993). Qualitative studies suggest that women report a main reason for their elevated risk for HIV is their partner's behavior (McGrath, Rwabukwali, Pearson-Marks, Mukasa, et al 1993). Ankrah reports that women cite, among other things, their husbands' infidelities and a lack of power over the conditions of their sexual relations as the main issues that place them at high risk for acquiring HIV (1991).

Marriage appears to increase sexual exclusivity thus potentially reducing the risk for either partner to acquire HIV. The situation is similar for those who cohabit, but the effect appears to be smaller. Nonetheless, one element of sexual risk is a person's ability to refuse or control sexual encounters (Standing 1992). This definition of sexual risk places married women at higher risk due to traditional marriage codes that assume spouses give consent to all future sexual acts when they marry, particularly in an atmosphere where nearly half of all reported more than one partner in the past year (UNAIDS 2002). In addition to the evidence that men are more likely to bring HIV into a marriage (Carpenter et al 1999), when one considers evidence that women quickly seroconvert, even married women who remain sexually faithful to their spouses remain at significant risk for infection.

Married women's risk is further elevated by the greater difficulties they face in negotiating condom use than unmarried women, largely due to the high value of fertility and the expectation of childbearing in marital or consensual unions (Connors and McGrath 1997; Ankrah 1991). While a women's status is tied to reproduction in many societies, there is a particularly high value placed on fertility in sub-Saharan Africa (Preston-Whyte 1995). None of the studies on condom negotiation differentiated between married and cohabitating individuals so we must assume that cohabitating women face similar difficulties as married women.

While this analysis shows that marriage can have a protective effect on HIV risk because it is associated with fewer partners per year, one must be careful not to assume that those who are married are automatically at lower risk for infection. It is important to keep in mind that most of those aged 19 or older in Kenya are married and if even a small proportion of them have multiple partners in a year, they still make up a substantial percent of all individuals who have more than one partner. In fact, in our sample, one fifth of those reporting two or more partners were married (not shown).

A study on HIV transmission in marriage in rural Uganda revealed that married men are more likely to acquire HIV than married women (Carpenter et al. 1999). Further, women with HIV positive partners were found to seroconvert in half as much time as men. These two findings, coupled with this paper's findings that married women are less likely to have multiple partners, suggests that while marriage may have a protective effect for women, men's risk of infection is reduced more by marriage than women's risk.

Marriage in Kenya is assumed to be of one's free will, which creates a certain amount of selection into marriage. The individuals in this sample who are married may have decided to marry because they place a high value on sexual exclusivity. Such individuals may be less likely to engage in multiple partnerships, regardless of their union status.

Reported sexual exclusivity varies between those who are married, in consensual unions, and in polygamous unions. Marriage is associated with the lowest predicted odds of having multiple partners; cohabitation has lower odds; and polygamous unions are associated with increased odds of having multiple partnerships. Finding this difference in outcomes by union structure could have significant consequences for the use of the "in union" category by demographers studying Africa. However since the prevalence of cohabitation remains low (approximately 5%), smaller sample sizes may necessitate using the "in union" category. Similarly, in societies where entrance into marriage is unclear, coresidence may provide the least measurement error, as long as it is clear that union status includes both married and cohabitating.

We must sharpen our understanding of the cultural meaning of multiple partnerships. Often there is social stigma associated with extramarital relations, but the extent of this stigma, and therefore the benefit of enforceable trust, needs further exploration in the context of sub-Saharan Africa. Qualitative studies suggest there may be some social acceptability of multiple sexual relations. Women in Uganda have cited certain circumstances when one is expected to have multiple partnerships, and other circumstances when it is unacceptable (McGrath et al 1993). Furthering our understanding of the social scripts for married individuals' sexual activities can help AIDS prevention programs better adjust their behavior change messages to the actual local scripts.

My finding that women who have co-wives are more likely to report having multiple partners in the past year is surprising. Studies have found that women in polygamous unions do not resemble women in monogamous unions in terms of contraceptive use and fertility (Dodoo 1998; Ezeh 1997). These data suggest that that they differ in their reports of multiple partnerships as well. The data do not allow the exploration as to whether reported number of partners in the past year differs for women who are first wives as opposed to second or third wives. Wife inheritance, where a widow is expected to marry her brother-in-law after the death of her husband, makes it possible that women who are second and third wives were widowed. Similarly, many second wives may have been previously divorced. Widowed and divorced women may be more likely to have a higher numbers of partners.

Women in polygamous unions may have to divide their husband's income among many families. Literature on southern Africa has shown that women may use sexual networks to gain access to needed resources (Dodoo, Sloan, and Zulu forthcoming; Longfield, Glick, and Waithaka 2002). Women in polygamous unions may have increased need for such networks, and those residing in urban slums may be at the highest risk for economic hardship. Likewise, these women may be "outside wives," who are not officially married, but identify as a man's wife, yet have limited access to their "husband's" income (National Academy of Science 1993).

Conclusion

Monogamous marriage and co-residing unions appear to have protective effects from HIV transmission in Kenya insofar as women in these unions report fewer partners than women in unions. Nevertheless, in order to fully understand the potential protectiveness of marriage further research, taking into account the lower levels of condom use by those in stable unions (Fortenberry 2002) and the proportion of couples that are serodiscordant, is needed. This is not the first call for risk reduction models that combine social and epidemiological factors. While such analysis is outside the scope of this report, it would bring a greater understanding of the full effect that union type has on HIV risk.

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Reference List

- 1996. "Kenya: Seminar on Marriage, Divorce, and Inheritance." Pp. 59 in *Women's International Network News*, vol. 22.
- 1999. Reducing Girls' Vulnerability to HIV/AIDS: the Thai Approach. Geneva: UNAIDS.
- 10 Oct 2002. "IDB Population Pyramids" [Web Page]. Accessed Nov 2002. Available at www.census.gov/ipc/www/idbpyr.html.
- Amnesty International. 2002. Kenya: Rape: The Invisible Crime.
- Ankrah, E. M. 1991. "AIDS and the Social Side of Health." Social Sciences and Medicine 32(9):967-80.
- Blanc, Ann K. 2001. "The Effect of Power in Sexual Relationships on Sexual and Reproductive Health: An Examination of the Evidence." *Studies in Family Planning* 32(3):189-213.
- Caldwell, John C., Pat Caldwell, and Pat Quiggin. 1989. "The Social Context of AIDS in Sub-Saharan Africa." *Population and Development Review* 15(2):185-233.
- Carpenter, Lucy M., Anatoli Kamali, Anthony Ruberantwari, Samuel S. Malamba, and James A. G. Whitworth. 1999. "Rates of HIV-1 Transmission Within Marriage in Rural Uganda in Relation to the HIV Sero-Status of the Partners." AIDS 13(9):1083-89.
- Cherlin, Andrew J. 2000. "Toward a New Home Socioeconomics of Union Formation." Pp. 126-44 in New York: Aldine de Gruyter.
- Connors, M. M. and J McGrath. 1997. "The Known, Unknown and Unknowable in AIDS Research in Anthropology." *Anthropology Newsletter*: 1, 4-5.
- Dodoo, F. N.-A. 1998. "Marriage Type and Reproductive Decisions: A Comparative Study in Sub-Saharan Africa." *Journal of Marriage and the Family* 60(1): 232-42.
- Dodoo, F. N.-A., Melissa Sloan, and Eliya M. Zulu. In press. "Space, Context, and Hardship: Socializing Children into Sexual Activity in Kenyan Slums." *Reproduction and Social Context in Sub-Saharan Africa*.
- Ezeh, Alex C. 1997. "Polygyny and Reproductive Behavior in Sub-Saharan Africa: A Contextual Analysis." *Demography* 30(3):355-68.
- Fortenberry, McFarlane, Bleakley, Bull, Fishbein, Grimley, Malotte, and Stoner. 2002. "Relationships of Stigma and Shame." American Journal of Public Health 92(3).
- Glynn, Judith R., Anne Buve, Michel Carael, Rosemary M. Musonda, Maina Kahinda, Isaac Macauley, Francis Tembo, Leopold Zekeng, and The Study Group on Heterogeneity of HIV Epidemics in African Cities. 2001. "Factors Influencing the Difference in HIV Prevalence Between Antenatal Clinic and General Population in Sub-Saharan Africa." AIDS 15(13):1717-26.
- Kilian, A.H., S. Gregson, B. Ndyanabangi, K. Walusaga, G. Sahlmuller, G.P. Garnett, G. Asiimwe-Okiror, G. Kabaganbe, P. Weis, F. von Sonnenburg. 1999. "Reductions in Risk Behavior Provide the Most Consistent Explanation for Declining HIV-1 Prevalence in Uganda." *AIDS* 13(3): 391-398.

- Lee, Barbara, Congresswoman. 31 Jan 2002. "Members of Congress Express Concern over President Bush's Porposal for Increase in Abstinence-Only Funding" [Web Page]. Accessed 5 Dec 2002. Available at www.house.gov/lee/releases/02jan31.htm.
- Longfield, Kim, Anne Glick, and Margaret Waithaka. 2002. "Money, "Green Lodges," and Risk for STIs/HIV: Cross-Generational Relationships in Kenya." *PSI Research Division Working Paper* 52.
- McGrath, J. W., C. B. Rwabukwali, J. Pearson-Marks, R. Mukasa, and et al. 1993. "Anthropology and AIDS: The Cultural Context of Sexual Risk Behavior Among Urban Bagandan Women in Kampala, Uganda." Social Science & Medicine 36(4):429-39.
- Meekers, Dominique. 1992. "The Process of Marriage in African Societies: A Multiple Indicator Approach." *Population and Development Review* 18(1):61-78.
- Mucai-Kattambo, V., J. Kabeberi-Macharia, and P. Kameri-Mbote. 1995. "Law and the Status of Women in Kenya." Nairobi: Women and Law in East Africa.
- Marriage: New Forms, New Ambiguities. 1993. Social Dynamics of Adolescent Fertility in Sub-Saharan Africa, National Academy of Science.
- National Council for Population and Development (NCPD), Central Bureau of Statistics (CBS) (Office of the Vice President and Minisrty of Planning and National Development)
 [Kenya], and Macro International Inc. (MI). 1999. Kenya Demographic and Health Survey 1998. Calverton, Maryland: NCPD, CBS, and MI.
- Nock, Steven L. 1998. " Marriage As a Social Institution." Pp. 11-42 in *Marriage in Men's Lives*, New York: Oxford University Press.
- Popenoe, David. 1993. "American Family Decline, 1960-1990: A Review and Appraisal." Journal of Marriage and the Family 55:527-55.
- Preston-Whyte, E. M. 1995. "Half-Way There: Anthropology and Intervention-Oriented AIDS Research in KwaZulu/Natal, South Africa." Pp. 315-37 in *Culture and Sexual Risk: Anthropological Perspectives on AIDS*, Amsterdam: Gordon and Breach Publishers.
- Raley, R. K. 2000. "Recent Trends and Differentials in Marriage and Cohabitation: The United States." Pp. 19-39 in New York: Aldine de Gruyter.
- Reinecke, Jost, Peter Schmidt, and Icek Ajzen. 1996. "Application of the Theory of Planned Behavior to Adolescent's Condom Use: a Panel Study." *Journal of Applied Psychology* 26(9):749-72.
- Seidel, Gill. 1993. "The Competing Discourses of HIV/AIDS in Sub-Saharan Africa: Discourses of Rights and Empowerment Vs. Discourses of Control and Exclusion." Social Science and Medicine 36(3):175-94.
- Singh, Susheela, Jacqueline E. Darroch, and Akinrinoh Bankole. 2002. *The Role of Behavior Change in the Decline in HIV Prevalence in Uganda*. New York.
- Standing, H. 1992. "AIDS: Conceptual and Methodological Issues in Researching Sexual Behaviour in Sub-Saharan Africa." *Social Science and Medicine* 34(5):475-83.

UNAIDS. 2002. "Epidemiological facts sheet on HIV/AIDS and sexually transmitted infections:

Kenya" [Web Page]. Accessed 14 Oct 2002. Available at http://www.unaids.org/hivaidsinfo/statistics/fact_sheets/pdfs/Kenya_en.pdf.

Waite, Linda J. 1995. "Does Marriage Matter?" Demography 32:483-520.

World Bank. 1997. Confronting AIDS: Public Priorities in a Global Epidemic. New York: Oxford University Press.

Table 1: Percentage and frequency distributions of sample			
	% of all women in unions		
	%	Ν	
Union status			
Married, co-residing	71.1	1438	
Married, not co-residing	7.0	142	
Not married, co-resides	4.3	87	
Widowed	4.9	99	
Divorced or separated	12.8	258	
Has co-wives	10.7	217	
2+ partners in past year	4.6	92	
Age			
12-19	4.7	96	
20-29	51.8	1048	
30-39	32.3	654	
40-49	11.2	226	
Secondary or higher education	32.0	647	
Total	100.0	(N=2024)	

Source: 2000 Nairobi Cross-Sectional Slum Survey (NCSS)

	2 or more partners	Ν	
Union type***			
Married, co-residing	1.0	1438	
Married, not co-residing	2.1	142	
Not married, co-resides	11.5	87	
Widowed	11.1	99	
Divorced or separated	20.54	258	
Co-wives			
Yes	5.1	217	
Age**			
12-19	1.0	96	
20-29	3.4	1048	
30-39	6.6	654	
40-49	5.3	226	
Education*			
None/Primary	5.3	1377	
Secondary or higher	2.9	647	
Total	4.6%	2056	

Table 3: Predicted odds ratios of reporting more than one partner in the past year (reference=married living together, N=2024)		
Married, not co-residing	1.7	
Not married, co-resides***	11.0	
Has co-wives***	4.1	
Widowed***	16.5	
Divorced or separated***	33.9	
Age	0.9	
Secondary or higher education	0.8	
Log likelihood	-288.80088	
	LR chi2(7) = 170.90 ; Prob > chi2 = 0.0000	
	Pseudo R2 = 0.2283	