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Sexual Coercion among Adolescent Women in Rakai, Uganda: Does Family Structure Matter?

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Abstract

Studies on adolescent girls' vulnerability to sexual coercion in sub-Saharan Africa have focused mainly on individual and partner risk factors, rarely investigating the role the family might play in their vulnerability. This study examined whether household family structure and parental vital status were associated with adolescent girls' risk of sexual coercion in Rakai, Uganda. Modified Poisson regression was used to estimate relative risk of sexual coercion in the prior twelve months among 1985 unmarried and married adolescent girls aged 15–19 who were participants in the Rakai Community Cohort Study between 2001 and 2008. Among sexually active girls, 11% reported coercion in a given past year. Unexpectedly, living with a single mother was protective against experiencing coercion. 4.1% of never-married girls living with single mothers reported coercion, compared to 7.8% of girls living with biological fathers (adjRR 2.24; 95% CI: 0.98–5.08) and 20% of girls living in step-father households (adjRR 4.73; 95% CI: 1.78–12.53). Ever-married girls whose mothers alone were deceased were more likely to report coercion than those with both parents alive (adjRR 1.56; 95% CI: 1.08–2.30). Protecting adolescent girls from sexual coercion requires prevention approaches which incorporate the family, with particular emphasis on including the men that affect young girls' sexual development into prevention efforts. Understanding the family dynamics underlying the risk and protective effects of a given household structure might highlight new ways in which to prevent sexual coercion.

INTRODUCTION

Sexual violence and coercion against women and their detrimental effects on women's well-being has increasingly received global attention. The World Health Organization (WHO) defines sexual violence as "any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed, against a person's sexuality using coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work" (World Health Organization, 2002; Krug, Mercy, Dahlberg, & Zwi, 2002).. Further, the WHO explains that coercion "can cover a

whole spectrum of degrees of force,” including physical force (World Health Organization, 2002). Despite increased recognition, evidence from developing countries on the prevalence and scope of sexual coercion and violence among adolescent women remains limited, especially for young women in sub-Saharan Africa (Koenig et al., 2004). Available evidence from the region suggest that significant numbers of adolescent women have experienced coercive sex, with studies reporting a range of 10% to 46% (Garoma, Belachew, & Wondafrash, 2008; Koenig et al., 2004; Maharaj & Munthre, 2007; Moore, Awusabo-Asare, Madise, John-Langba, & Kumi-Kyereme, 2007; Population Council, 2004; Reza et al., 2009). The most common forms of sexual coercion as reported by nationally representative samples of young women in sub-Saharan Africa are forced sex, pressure through money or gifts, threatening to have sex with other girls, and passive acceptance (Moore et al., 2007; Reza et al., 2009).

Moreover, a growing body of research has linked sexual coercion among adolescent women to a range of negative health and reproductive health outcomes. These include sexually transmitted infections (STIs), unwanted pregnancies, and reproductive tract infections, in part because condoms are seldom used in coercive relationships (Koenig et al., 2004; Maharaj & Munthre, 2007; Moore et al., 2007; Reza et al., 2009). Sexual coercion may also increase vulnerability to HIV, a grave concern considering that 76% of the youth living with HIV in sub-Saharan Africa are women (Dixon-Mueller, 2009; Koenig et al., 2004; I. B. Zablotska, Lutalo, Nalugoda, Wagman, & Gray, 2004). Research in Rakai, Uganda previously identified a significant association between coerced first sexual intercourse and lifetime risk of acquiring HIV (Koenig et al., 2004; I. B. Zablotska et al., 2004). Additionally, studies have reported significant associations between coerced sexual intercourse and poor mental health, including suicidal thoughts, depression, post-traumatic stress disorder, anxiety, substance abuse, reduced ability to negotiate safer sex practices, lowered sexual competence and the deterioration of quality of life and self-confidence (Moore et al., 2007; Population Council, 2004; Reza et al., 2009; Wagman et al., 2008)

Though the evidence is mounting on the detrimental effects of sexual coercion and there is growing mobilization to end sexual violence against women, information remains lacking on the determinants and associated risk factors associated with sexual coercion among adolescent women. To date, studies in sub-Saharan Africa have generally focused on individual and partner level factors associated with risk of sexual coercion. For instance, studies have reported that alcohol use before sex is associated with increased risk of coercion (I. B. Zablotska et al., 2006; I. B. Zablotska et al., 2007). Other studies have noted that perpetrators of coercion were men or boys that young women knew, such as boyfriends or husbands and male relatives, and occurred in the adolescent's own home (Reza et al., 2009).

Surprisingly, the family has been neglected in the discourse on sexual coercion among adolescent women. We posit that the family, one of the most influential socializing agents for adolescents, plays an integral in young women's vulnerability to sexual coercion (Barnes, Farrell, & Cairns, 1986; Brown & Rinelli, 2010; Mignon R. Moore & Chase-Lansdale, 2001; Newcomer & Udry, 1984; Wu & Martinson, 1993; Wu & Thomson, 2001). We draw on two theoretical perspectives to aid in our argument that the family can play a

protective or risk role in young women's vulnerability to sexual coercion. Further, we focus on family structure because it establishes a context in which various family processes, such as monitoring and supervision, develop and unfold (Brown & Rinelli, 2010).

The socialization perspective, in line with Social Learning Theory, views the family as the primary site where children learn from parental models how to act in broader society (Barnes et al., 1986; Mignon R. Moore & Chase-Lansdale, 2001; Newcomer & Udry, 1984; Wu & Thomson, 2001). As such, parents or parental figures directly and indirectly convey sexual attitudes and provide models of behaviors to their children and adolescents; the latter may accept these as societal norms and replicate such behaviors (Barnes et al., 1986; Mignon R. Moore & Chase-Lansdale, 2001; Newcomer & Udry, 1984; Wu & Thomson, 2001). For example, sharing sleeping spaces with parents – as can occur in small houses such as those in rural areas of sub-Saharan Africa, many of which have only one or two rooms – enables adolescents to observe parents' sexual activity and intimate interactions. Therefore, if the adolescent reside in a household where sexual violence occurs between parental figures, she might accept such behaviors as the norm for romantic relationship and thus, might not be equipped with the necessary skills to avoid situations where she could be coerced into sexual intercourse.

Complimentary to the socialization perspective, Social Control Theory emphasizes parental control over children's behavior (King et al., 2004; Mignon R. Moore & Chase-Lansdale, 2001; Wu & Martinson, 1993). Through support, monitoring and supervision, parents may reduce opportunities for adolescents to engage in high risk behaviors (King et al., 2004; Mignon R. Moore & Chase-Lansdale, 2001). However, parental control can be affected by the degree of presence of either or both parents. Research from the United States has argued that youth living with both parents have fewer opportunities to engage in sexual activity because of greater supervision and monitoring as compared to those in one parent households (Mignon R. Moore & Chase-Lansdale, 2001). This argument might also hold for sub-Saharan Africa; a study from South Africa reported that relative to living with both parents, living with a single parent was associated with higher rates of reported rape (King et al., 2004).

The few studies that have assessed the role of family structure in sexual coercion has focus primarily on the unmarried adolescent (Birdthistle et al., 2008; King et al., 2004; Operario, Pettifor, Cluver, MacPhail, & Rees, 2007; Thurman, Brown, Richter, Maharaj, & Magnani, 2006). However, data from Africa suggest that marriage may not be protective against coercion (Erulkar, 2004). A Kenyan study reported that girls who had ever been married had twice the odds of experiencing sexual coercion when compared to those who had never married (Erulkar, 2004). Understanding sexual violence within marriage in sub-Saharan African poses unique challenges because of cultural norms and traditions.

Although mores are changing, research in Africa suggests that within marriage the husband is still more likely to have primacy in decision making related to sexuality (Jewkes & Abrahams, 2002; Mair, 1978). Traditionally, however, a woman with marital grievances could potentially seek different support and protection from her parents (Otiso, 2006; A.

Nsamenang B., 1987). Parental death might disrupt this pattern, particularly in populations with high rates of HIV/AIDS associated mortality.

The current study investigates whether household family structure and parental vital status impact adolescent girls' risk of sexual coercion in Rakai, Uganda.

METHODS

Study Setting and Procedures

The study setting is rural Uganda. Approximately 6.3% of Ugandan adults, ages 15–59, are infected with HIV (Government of Uganda, 2008). According to national and regional surveys, premarital sex is common in much of Uganda; approximately 30% of females aged 15–17 have had sexual intercourse and 35% of girls aged 15–19 have been pregnant or had already delivered a child (Kipp, Chacko, Laing, & Kabagambe, 2007; Koenig et al., 2004). The challenges for preventing HIV infection among Ugandan adolescents include gaps in information, inconsistency of condom use and parents resistance to talk to children about sex (Kipp et al., 2007). Like many African countries, there is a higher HIV prevalence in females than males (Neema, Musisi, & Kibombo, 2004).

Rakai is a rural district in Southwest Uganda. The first AIDS cases in Uganda were identified in this district, where prevalence rates remain among the highest in the country (KondeLule et al., 1997). Moreover, analyses of risk behaviors over 8 (1994–2002) and 12 years (1994–2006) found an increase in non-monogamous relationships among 15–19 year olds and a decline in sexual abstinence in 15–24 year olds, respectively (Namukwaya et al., 2006; Omer et al., 2008).

The current study utilized data from the ongoing Rakai Community Cohort Study (RCCS), a longitudinal, population-based open cohort in 50 rural communities in Rakai District. Since 1994, RCCS has enrolled and followed consenting adolescents and adults, aged 15–49 (Wawer et al., 1999; Wawer et al., 2005). An annual census enumerates all residents in every household in each RCCS community, and collects data on each member's relationship to the head of the household; children are linked to their biological and step parents. When a household is first censused, each household member receives a life-long unique household identification (ID) number. The census also compiles information on key household possessions, amenities (electricity, water, sanitation), the building materials (ranging from mud, wattle and thatch, to brick and tile roof) and size of the residence.

The census is followed by a survey, in which a standardized interview is conducted in private with all consenting individuals aged 15–49 in each RCCS household; the questionnaire is administered, by trained same-sex interviewers fluent in Luganda. More than 90% of all residents present in the village at the time of the annual survey have participated in any given survey round. The RCCS and all nested studies have been approved by the Science and Ethics Committee of the Uganda Virus Research Institute, the Johns Hopkins Institutional Review Board, and the Western Institutional Review Board.

The study population for this analysis consisted of adolescent girls, ages 15–19, who were permanent residents of the RCCS communities in any year between 2001 and 2008 (the period in which the RCCS included questions about sexual coercion) and who were sexually active within the 12 months prior to each survey round. For this analysis, adolescent girls were followed from their entry into the cohort (which could occur by aging-in at 15 years or by in-migration at any age between 15 and 18 years) until age 19. The analytic sample consisted of 1,985 sexually active adolescent girls who provided 2,251 observations.

Measures

The annual survey collects detailed socio-demographic and sexual behavioral data.

Sexual Coercion—Data were collected on adolescent girls’ experiences of verbal and physical sexual coercion. Due to small numbers of women (2%) who reported only verbal sexual coercion, we did not conduct independent analyses on these few. Our analyses were restricted to those reporting physical sexual coercion, of which 56% also experienced verbal sexual coercion. Physical sexual coercion was assessed using two questions: “in the past 12 months, has any of your sexual partners ever physically forced you to have sex when you did not want to?” and “in the past 12 months, how many times did your husband/partner physically forced you to have sex when you did not want to?” An answer of yes to the former question and reporting at least one occurrence to the latter question was defined as experiencing physical sexual coercion in the past 12 months.

Drawing from both the aforementioned WHO’s definition of sexual violence and the work of Heise and colleagues in the 1990’s, our outcome is termed “sexual coercion.” Heise and colleagues explained that “sexual coercion is the act of forcing (or attempting to force) another individual through violence, threats, verbal insistence, deception, cultural expectations or economic circumstance to engage in sexual behavior against his or her will. As such it includes a wide range of behaviors from violent forcible rape to more contested areas... The touchstone of coercion is an individual woman's lack of choice to pursue other options without severe social or physical consequences” (World Health Organization, 2002; Heise, Moore, & Toubia, 1995). Moreover, our terminology is consistent with those used in other research assessing sexual coercion in sub-Saharan Africa and specifically in Rakai, Uganda (Erulkar, 2004; Koenig et al., 2004; I. B. Zablotska et al., 2004).

Family structure—The RCCS censuses were used to define the family level characteristics. *Household family structure* was derived by using the adolescent’s household ID number and that of her parent(s), the girls’ and/or her parents’ relationships to the head of the household, and the household ID number of the girls’ spouse if she was married. Household family structure was defined hierarchically and eleven structures were identified. Girls could be residing in a household with: (1) two biological parents, (2) biologic father/step mother, (3) biologic mother/step father, (4) single mother, (5) single father, or (6) spouse. If neither parents nor a spouse were her co-residents, the household was defined as being headed by (7) a grandparent, (8) a sibling, (9) other relatives, or (10) non-relatives. Finally, a girl could be (11) living alone or as head of her own household (e.g., with younger siblings under her care). Household family structures were not mutually exclusive; for

example, a girl living with both parents could also have grandparents and/or siblings living in her house. In such a scenario, her structure was defined as living with both parents given our hierarchical definition.

For the analyses, we combined several household categories due to very similar rates of reported sexual coercion. For example, the proportion of girls experiencing sexual coercion was similar for those who lived with their biological father, whether the father was married to the biological mother, a step-mother or was single. The proportions were also similar for girls living with grandparents, siblings, other relatives or non-relatives. Therefore, household family structure was collapsed into the following categories: (1) biological father, irrespective of mother's or stepmother's presence in the home; (2) single biological mother; (3) stepfather and biological mother; (4) spouse; (5) others; and (6) alone.

Parental survival status—Using the survival status of the ever-married adolescent's parents collected on the census, *parental survival status* was defined as: both alive, both deceased, only mother deceased, and only father deceased.

Other family factors—We constructed a “wealth index” as a proxy for economic status, based on household building materials, assets and type of utilities (Wagstaff & Watanabe, 2003). Principle component analysis was used to create an asset score with a mean of 0 and standard deviation of 1 (Filmer & Pritchett, 2001). The scores for the entire RCCS population were divided into tertiles to form *household wealth*: low, mid, and high. *Household size* was determined by the number of individuals reported living in a particular household at the time of the census. The census also indicated whether the household was *polygamous* (i.e. whether the male household head had multiple wives).

Adolescent sociodemographics—At the individual level, we controlled for the adolescent's *age*, *occupation* (agriculture, housework, student/professional, other [e.g. shopkeeper, trading]), and *level of education* (primary/secondary).

Adolescent risk behaviors—We controlled for the adolescent's *alcohol use* in the prior 30 days (yes/no), *age difference between the adolescent and her partner* (less than 10 years/ greater than 10 years), her *number of sexual partners* in the prior 12 months (1 vs. 2+), and her perceived *self-reported susceptibility to HIV* (very likely, somewhat likely, unlikely, not all like, don't know). We also adjusted for the adolescent's *level of approval towards intimate partner violence* (IPV), which was based on an additive score of whether or not she agreed that a man was justified in beating his wife/partner if she: (1) neglected household responsibilities; (2) disobeyed her husband/elders; (3) used contraception without permission; (4) refused her husband sex; (5) learned her positive HIV status; (6) learned his positive HIV status; (7) argued over money; (8) was unfaithful. The score was divided into quartiles: none, low, medium or high.

Statistical Analyses

Descriptive analyses were performed using means and standard deviations for continuous variables and frequencies and percentages for categorical variables. We fitted modified Poisson regression models with robust error variance using generalized estimation equations

(GEE) to estimate relative risk (RR) (Barros & Hirakata, 2003; Diggle, Heagerty, Liang, & Zeger, 2002; Zou, 2004). Although it is a common practice to use logistic regression with a binomial outcome variable, the estimated odd-ratios (OR) do not appropriately reflect the excess risks with a high prevalence outcome (>5%) (Barros & Hirakata, 2003; Zou, 2004). For the correct interpretation, we preferred to directly estimate RR, rather than OR. We attempted first to fit log-binomial models, but the models did not converge and used Poisson regression which also allows for direct estimation of the relative risks (RR) (Barros & Hirakata, 2003; Zou, 2004). GEE controls for the intra-class correlation within household and for repeated observations on the same individuals. Failure to take into account this correlation results in invalid inferences for standard errors and confidence intervals (Diggle et al., 2002). The robust standard error estimates were used to compute the 95% confidence intervals (CI). GEE also accounts for differential number of observations on individuals which can occur for a variety of reasons given that the data is longitudinal. For example, one adolescent might be present during one survey round and lost to follow-up in the next round while another adolescent might be present at every survey round. GEE allows both of these adolescents to be in the analyses because it accounts for differential number of observations. As such, all sexually active adolescent girls surveyed during the rounds when the coercion questions were asked were included in the analyses, regardless of the number of observations she contributed to the analyses. All analyses were conducted using STATA.SE, version 11.1 (StataCorp LP, College Station, Texas, USA).

RESULTS

Entire Sample

In any given year, approximately 11% (range: 9.1% – 12.5%) of our sample reported experiencing physical sexual coercion. Ever-married girls (regardless of current marital status) were two times more likely to experience sexual coercion than never-married girls (15% vs. 7%). Ever-married girls reported husbands (45%), consensual partners (52%) and boyfriends (5%) as the perpetrators of sexual coercion while never-married girls reported boyfriends (85%), casual friends (10%), other non-relatives (4%) and rapists (1%) (results not shown).

In the adjusted analyses, the risk of coercion was significantly increased among girls who reported multiple sexual partners in the prior 12 months compared to those with only one partner (relative risk (RR): 1.6), who had a primary level of education compared to secondary (RR:1.6), who drank alcohol compared to non-drinkers (RR:1.3) and who reported any level of approval towards IPV compared to those who expressed no approval (relative risks ranging from 3.5 to 3.8) (Table 1). Girls who perceived it was somewhat likely (RR:1.9) and very likely (RR:2.0) they have been exposed to HIV also had higher risk of sexual coercion than girls who thought it was not at all likely.

At the household level, wealth, polygamy, and household size were not associated with risk of experiencing sexual coercion. However, household family structure was predictive. Compared to girls living with their single mothers, those living with their biological fathers (RR:2.6), with stepfathers (RR:4.8) and with spouses (RR:2.8) were significantly more likely to experience sexual coercion. Living with others (RR:1.8) and alone (RR:2.3) was

also associated with higher rates of reported sexual coercion compared to single mother households, but the results were not statistically significant.

In preliminary supplemental analyses based on parental and spousal survey information, single mothers reported the lowest levels of approval towards IPV compared to parents and relatives in other family structures, and this difference was significant when compared to mothers married to stepfathers (results not shown).

Never-married vs. Ever-married

Among never-married girls, individual level factors associated with sexual coercion in adjusted models included lower education, having multiple sexual partners and a greater age difference between the adolescent and her partners (table 2). Among ever-married girls (of whom 97% were currently married), however, the associated factors were alcohol use and having the perception that they were somewhat likely to have been exposed to HIV (table 3). In both groups of girls, those who approved of IPV at any level had significantly higher risk of experiencing sexual coercion when compared to girls who did not approve of IPV (relative risks ranging from 2.7–5.9).

At the family level in the never-married sample, compared to those living with their single mothers, those living in step-father households were four times more likely to experience sexual coercion (RR:4.7). Living with biological fathers was marginally significantly associated with sexual coercion (RR:2.2).

In the ever-married sample, those whose mothers alone were deceased had higher likelihood of experiencing sexual coercion than those with both parents alive (RR:1.6). Living in a polygamous household (i.e. the respondent's husband had multiple wives) was marginally significantly associated with reduced risk of coercion (RR: 0.6). Reducing wealth trended towards increased risk of coercion.

DISCUSSION

Our findings indicate that household family structure is strongly associated with girls' vulnerability to sexual coercion. Contrary to the Social Control Theory, living with a single mother was protective against sexual coercion relative to living in other households. There are a number of potential reasons for this novel finding. Research suggests that single mothers and daughters develop close and self-sufficient relationships (Hetherington & Stanley-Hagan, 1997; Hosely & Montemayor, 1997). In line with the socialization perspective, girls might not be as exposed to IPV in a single mother household as they are in home where the mother is married. Given the lack of privacy in many small rural Rakai homes, adolescents may see their parents' intimate interactions, including sexual violence, which may then appear to be normative (Amuyunzu-Nyamongo & Magadi, 2006). In single mother households, girls may also experience mothers who have greater autonomy and hold less approving attitudes towards such violence, as suggested by our preliminary data on maternal attitudes, which might influence the adolescent's own sexual relationships; these analyses are continuing. Our finding that higher levels of adolescents' approval of IPV were associated with increased sexual coercion supports this hypothesis, in line with other studies

that have similarly reported that less permissive attitudes towards IPV are protective against IPV and coercive sex (Koenig et al., 2003; Uthman, Moradi, & Lawoko, 2009).

The finding that living in step-father households elevated girls' risk of experiencing sexual coercion warrants further examination. Potential reasons include emotional distress if the relationship with the stepfather is stressful or if the prior relationship with the mother is disrupted, potentially resulting in the adolescent's disengagement from the family and the seeking of outside support, which might result in sexual exploitation (Hetherington & Stanley-Hagan, 1997). The adolescent girl may also be exposed to a new social network and kinship relations (including the stepfather's male relatives or friends) that may heighten her risk for coercion. It is important to note, however, that adolescent girls did not identify relatives, including stepfathers, as perpetrators or sexual partners in our sample.

Nonetheless, our result is consistent with that of a qualitative study of adolescents in South Africa, which reported higher risk of sexual abuse in a step-family than in an extended family (Petersen, Bhana, & McKay, 2005). Lastly, in rural Uganda, women's inheritance of property is limited, and women may remarry to secure support for themselves and their children (Kilbride & Kilbride, 1990; Otiso, 2006). Such a marriage for financial security may not necessarily translate into physical or psychological support for existing children.

Marriage was not protective against sexual coercion, a finding consistent with other studies (Erulkar, 2004). The association between alcohol use reported by adolescents within marriage and increased risk of sexual coercion suggests that the adolescent girl's drinking may serve as a marker for her husband's use, which may increase his sexual violence within the relationship. With respect to parents' vital status, the finding that ever-married girls whose mothers alone were deceased were more likely to experience sexual coercion is consistent with other studies which reported that maternal orphans are less likely to complete school, and are more likely to marry early and to have HIV than double or paternal orphans (Gregson, S. a b d, Nyamukapa, C.A.a b, Garnett, G.P.a, Wambe, M.b, Lewis, J.J.C.a, Mason, P.R.b, Chandiwana, S.K.b c, Anderson, R.M.a, 2005; Palermo & Peterman, 2009). It has been posited that surviving fathers may be less committed than surviving mothers to their children's needs and may be more likely to marry girls off early and one consequence associated with early age of marriage can be forced sexual coercion (Gregson, S.a b d, Nyamukapa, C.A.a b, Garnett, G.P.a, Wambe, M.b, Lewis, J.J.C.a, Mason, P.R.b, Chandiwana, S.K.b c, Anderson, R.M.a, 2005; UNICEF, March 2001).

This study has several limitations. First, underreporting of sexual coercion, especially among the never-married adolescents, may occur due to social desirability. Second, we were not able to assess family processes and dynamics, such a parent-adolescent communication. Third, sexual victimization prior to the adolescent entering the RCCS cohort was not measured in this study. Studies have shown that prior victimization is a predictor of experiencing subsequent sexual violence (Desai, Arias, Thompson, & Basile, 2002). Fourth, although our data is longitudinal, we acknowledge that we were unable to tease apart whether some of the predictors (e.g. approval of IPV) preceded or were consequences of the adolescent experiencing sexual coercion. Fifth, data were not available on extended family members (other than parents or spouses) residing outside the household, and such extended families can play an important role in African culture and society (Walle, 2006).

However, the use of household family structure provides a more comprehensive framework than many individual level analyses and provides important insights into resident patterns and social organization (Walle, 2006).

To our knowledge, this is one of the first studies to use a large community-based sample to assess the relationship between household family structure and sexual coercion among adolescent women in sub-Saharan Africa. Prior research has been limited to subpopulation such as school-based samples or tended to focus on parental death's association with sexual coercion (Birdthistle et al., 2008; Mendle et al., 2009; Thurman et al., 2006). Our study also adds to the knowledge regarding a vulnerable understudied population - married adolescents and their experiences of sexual coercion.

Implications

Our study results have research and programmatic implications. Our findings that stepfather and biological father households increased risk of experiencing sexual coercion call for more research to understand fatherhood in sub-Saharan Africa and fathers' effects on adolescent girls' sexual vulnerability. Nsamenang, one of the preeminent researchers on fatherhood in Africa, has noted that "Africa fathers, compared to father on other continents, have had little opportunity to be heard by researchers...As such, Africa perhaps in the least known world region in research-based knowledge on men's roles and fatherhood"(A. B. Nsamenang, 2010; A. Nsamenang B., 1987). Very few researchers have focused specifically on the father's role in adolescent sexual and reproductive health. Even fewer have attempted to untangle the role of non-biological fathers in the lives of adolescents. The lack of research is quite surprising given the dominant role men traditionally and currently play in families in African societies (A. B. Nsamenang, 2010; A. Nsamenang B., 1987). Clearly there is a general need for more research to elucidate the role of men in the family life and involvement in child rearing. Specifically to expand upon this study's findings, understanding the dynamics within the stepfather households can elucidate ways in which to help protect young girls from sexual violence. Until we can truly understand the dynamics of fatherhood in this region, we will be limited in our prevention efforts.

In addition to more research on fatherhood in sub-Saharan Africa, this study emphasizes the need to bring men into the discourse of protecting adolescent girls from sexual violence. Our study shows a clear pattern that suggest that adolescent girls' risk of sexual coercion is dependent on her exposure to potential perpetrators; girls who were married, those with higher number of sexual partners, and residing in a stepfather household increased risk of coercion. This implies that programs and interventions that seek to reduce and prevent sexual violence against young women must target and encourage fathers, husbands, and men in general to take an active role in preventing gender-based violence. Currently, primary prevention strategies in sub-Saharan African are recognizing the importance of bringing men into the discourse (World Health Organization, 2002; Population Council, 2008; Heise et al., 1995; Peacock & Levack, 2004). For example, through a collaboration of civil society organizations and governmental and academic institutes, the Men as Partners (MAP) program in South Africa has been actively working to transform the behaviors of men and the norms of masculinity (Peacock & Levack, 2004). In order to "present men as potential

partners capable of playing a positive role in the health and well-being of their partners, families and communities,” MAP utilizes many mediums in the fight against gender-based violence, such as workshops aimed at changing men’s knowledge, attitudes, and behavior (Peacock & Levack, 2004). Initial evaluation of MAP indicates that there has been a general positive attitudinal shift regarding sexual violence among men who have participated in MAP (Peacock & Levack, 2004). It is prevention programs like MAP that are currently being implemented across sub-Saharan Africa that will start to transform the men (i.e. fathers, husbands, sexual partners) that adolescent girls engage with on a daily basis and aid in the reduction of gender-based violence.

However, a focus on men is not sufficient for comprehensive prevention of sexual coercion among adolescent girls. Our paper highlights the need for ecological approaches to prevention; that is, interventions need to include families. HIV, globalization, urbanization and wars have all contributed to changing family demography in the region. As such, understanding general family processes and dynamics, including the role of the extended family, within different household family structure may highlight new ways to reducing sexual vulnerability among adolescent women. Research can disentangle these elements within the various structures we have identified in this study and further explain in detail our findings.

Lastly, programs are needed that will address sexual coercion and violence among adolescents, especially those who are married. Gender equality, communication among couples, support services for those who have experienced sexual violence and increased education about partner type are all issues that programs can address among both married and unmarried young women and men. It is not sufficient that programs work with youth; they must work with their caregivers as well because it is the caregivers that socialize their children about relationship quality. Given the cultural tolerance towards gender-based violence, it is very likely that the caregivers, themselves, would require the same services.

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Table 1

Unadjusted and adjusted relative risks (RR) for experiencing physical sexual coercion (N=2251)

	n/N ^a	%	Unadjusted RR (95% CI)	Adjusted RR ^{bc} (95% CI)
INDIVIDUAL LEVEL CHARACTERISTICS				
Marital Status^d				
Never married	83/1137	7.3	1.00	-
Ever married	166/1114	14.9	2.09*** (1.62–2.70)	-
Age	-	-	1.08 (0.97 – 1.20)	1.02 (0.91 – 1.14)
Education				
Secondary	66/938	7.0	1.00	1.00
None-Primary	183/1313	13.9	2.01*** (1.53 – 2.65)	1.59** (1.14 – 2.22)
Occupation				
Student	36/594	6.1	1.00	1.00
Agriculture	154/1244	12.4	1.95*** (1.36 – 2.79)	0.99 (0.61 – 1.61)
Housework	37/289	12.8	1.97** (1.24 – 3.13)	1.19 (0.69 – 2.04)
Other	22/124	17.7	2.87*** (1.75 – 4.73)	1.39 (0.75 – 2.57)
Alcohol Use				
No	198/1919	10.3	1.00	1.00
Yes	51/332	15.4	1.53** (1.14 – 2.04)	1.33* (1.00 – 1.77)
Level of approval of IPV				
None	7/248	2.8	1.00	1.00
Low	97/847	11.5	3.75*** (1.85 – 7.61)	3.51*** (1.73 – 7.09)
Medium	113/891	12.7	4.17*** (2.06 – 8.45)	3.76*** (1.87 – 7.55)
High	32/259	12.4	4.26*** (2.01 – 9.04)	3.52** (1.68 – 7.40)
Perceived Susceptibility to HIV				
Not at all	11/185	5.9	1.00	1.00
Unlikely	132/1299	10.2	1.61 [†] (0.94 – 2.77)	1.50 (0.87 – 2.58)
Somewhat likely	79/552	14.3	2.25** (1.29 – 3.92)	1.92* (1.09 – 3.39)
Very likely	23/151	15.2	2.40** (1.26 – 4.57)	2.02* (1.06 – 3.86)
Don't Know	4/64	6.3	1.03 (0.35 – 3.00)	0.82 (0.28 – 2.39)
Number of Sexual Partners in last 12 months				
1	209/2028	10.3	1.00	1.00
2+	40/223	17.9	1.67** (1.21 – 2.32)	1.56* (1.09 – 2.21)
Age of sexual partners				
Less than 10 years	188/1784	10.5	1.00	1.00
10 years or more	61/467	13.1	1.26 (0.96 – 1.67)	1.06 (0.80 – 1.41)
FAMILY LEVEL CHARACTERISTICS				
Wealth				

	n/N ^a	%	Unadjusted RR (95% CI)	Adjusted RR ^{bc} (95% CI)
High	76/849	9.0	1.00	1.00
Average	63/514	12.3	1.32 [†] (0.95 – 1.84)	1.27 (0.92 – 1.76)
Low	110/888	12.4	1.34 [*] (1.01 – 1.79)	1.23 (0.92 – 1.66)
Polygamous Household				
No	224/1959	11.4	1.00	1.00
Yes	25/292	8.6	0.76 (0.51 – 1.13)	0.74 (0.50 – 1.10)
Family Size				
	-	-	0.92 ^{**} (0.87 – 0.97)	0.99 (0.93 – 1.06)
Household Family Structure				
Single biological mother	9/220	4.1	1.00	1.00
Biological father	35/412	8.5	2.08 [*] (1.03 – 4.25)	2.55 [*] (1.24 – 5.24)
Stepfather	8/41	19.5	4.89 ^{**} (2.00 – 11.99)	4.79 ^{**} (1.94 – 11.85)
Spouse	153/1052	14.5	3.60 ^{***} (1.87 – 6.93)	2.83 ^{**} (1.42 – 5.63)
Others	34/457	7.4	1.82 (0.89 – 3.74)	1.81 [†] (0.89 – 3.68)
Alone	10/69	14.5	3.42 ^{**} (1.39 – 8.40)	2.32 [†] (0.94 – 5.70)

Notes. CI=confidence interval

^aTotal N may be less than the grand total due to a small number of missing responses in some variables;

^bAdjusted for other variables in the table except marital status;

^cAdjusted model N=2245;

^dMarital status not included in adjusted model because its collinear with household family structure

[†]P<0.10;

^{*}P < .05;

^{**}P < .01;

^{***}P < .001

Table 2

Unadjusted and adjusted relative risks (RR) for experiencing physical sexual coercion among never-married adolescent girls (N=1137)

	n/N ^a	%	Unadjusted RR (95% CI)	Adjusted RR ^{bc} (95% CI)
INDIVIDUAL LEVEL CHARACTERISTICS				
Age	-	-	0.96 (0.81 – 1.13)	1.06 (0.88 – 1.27)
Education				
Secondary	36/693	5.2	1.00	1.00
None-Primary	47/444	10.6	1.95** (1.28 – 2.97)	1.98* (1.16 – 3.36)
Occupation				
Student	35/584	6.0	1.00	1.00
Agriculture	28/365	7.7	1.10 (0.64 – 1.90)	0.71 (0.39 – 1.31)
Housework	16/152	10.5	1.55 (0.80 – 3.01)	1.03 (0.51 – 2.09)
Other	13241	11.1	2.00 (0.77 – 5.18)	1.45 (0.50 – 4.19)
Alcohol Use				
No	73/998	7.3	1.00	1.00
Yes	10/139	7.2	1.03 (0.51 – 2.06)	1.08 (0.50 – 2.31)
Level of approval of IPV				
None	2/144	1.4	1.00	1.00
Low	30/429	7.0	4.99* (1.21 – 20.53)	4.81* (1.25 – 18.56)
Medium	40/449	8.9	6.23* (1.53 – 25.37)	5.71* (1.47 – 22.08)
High	11/114	9.6	7.03* (1.61 – 30.72)	5.94* (1.45 – 24.38)
Perceived Susceptibility to HIV				
Not at all	5/103	4.9	1.00	1.00
Unlikely	46/682	6.7	1.29 (0.57 – 2.91)	1.30 (0.57 – 2.97)
Somewhat likely	22/268	8.2	1.66 (0.70 – 3.94)	1.36 (0.55 – 3.34)
Very likely	8/57	14.0	2.80† (0.93 – 8.45)	2.72† (0.93 – 8.00)
Don't Know	2/27	7.4	1.46 (0.30 – 6.99)	1.53 (0.34 – 6.83)
Number of Sexual Partners in last 12 months				
1	62/994	6.2	1.00	1.00
2+	21/143	14.7	2.28** (1.41 – 3.70)	1.99** (1.20 – 3.31)
Age of sexual partners				
Less than 10 years	62/971	6.4	1.00	1.00
10 years or more	21/166	12.7	2.09** (1.29 – 3.39)	1.81* (1.13 – 2.90)
FAMILY LEVEL CHARACTERISTICS				
Wealth				
High	34/498	6.8	1.00	1.00
Average	17/237	7.2	0.97 (0.53 – 1.75)	1.00 (0.55 – 1.81)
Low	32/402	8.0	1.05 (0.65 – 1.71)	1.06 (0.64 – 1.78)

	n/N ^a	%	Unadjusted RR (95% CI)	Adjusted RR ^{bc} (95% CI)
Polygamous Household				
No	67/947	7.1	1.00	1.00
Yes	16/190	8.4	1.19 (0.71 – 2.01)	1.02 (0.60 – 1.75)
Family Size	-	-	1.02 (0.94 – 1.10)	1.02 (0.94 – 1.11)
Family Structure				
Single biological mother	7/213	3.3	1.00	1.00
Biological father	31/400	7.8	2.30* (1.04–5.10)	2.24 [†] (0.98 – 5.08)
Stepfather	8/40	20.0	5.98*** (2.29 – 15.63)	4.73** (1.78 – 12.53)
Other	32/430	7.4	2.22* (1.00 – 4.92)	1.89 (0.88 – 4.05)
Alone	5/54	9.3	2.39 (0.71 – 8.07)	1.43 (0.37 – 5.60)

Notes. CI=confidence interval

^aTotal N may be less than the grand total due to a small number of missing responses in some variables;

^bAdjusted for other variables in the table;

^cAdjusted model N=1136

[†]P<0.10;

* P < .05;

** P < .01;

*** P < .001

Table 3

Unadjusted and adjusted relative risks (RR) for experiencing physical sexual coercion among ever-married adolescent girls (N=1114)

	n/N ^a	%	Unadjusted RR (95% CI)	Adjusted RR ^{bc} (95% CI)
INDIVIDUAL LEVEL CHARACTERISTICS				
Age	-	-	0.96 (0.83 – 1.11)	0.98 (0.85 – 1.14)
Education				
Secondary	30/245	12.2	1.00	1.00
None-Primary	137/869	15.8	1.35 (0.92 – 1.98)	1.26 (0.85 – 1.87)
Occupation				
Student	1/10	10.0	1.00	1.00
Agriculture	127/879	14.4	1.47 (0.23 – 9.52)	1.04 (0.11 – 7.21)
Housework	21/137	15.3	1.50 (0.22 – 10.07)	1.22 (0.13 – 8.47)
Other	18/88	20.5	2.06 (0.31 – 13.84)	1.26 (0.15 – 10.18)
Alcohol Use				
No	126/921	13.7	1.00	1.00
Yes	41/193	21.2	1.58** (1.17 – 2.13)	1.46* (1.09 – 1.97)
Level of approval of IPV				
None	5/104	4.8	1.00	1.00
Low	67/418	16.0	2.94** (1.32 – 6.55)	2.90** (1.30 – 6.47)
Medium	74/442	16.7	3.26** (1.47 – 7.21)	3.10** (1.40 – 6.88)
High	21/145	14.5	2.92* (1.24 – 6.88)	2.69* (1.15 – 6.28)
Perceived Susceptibility to HIV				
Not at all	6/82	7.3	1.00	1.00
Unlikely	86/617	13.9	1.74 (0.87 – 3.47)	1.67 (0.82 – 3.36)
Somewhat likely	57/284	20.1	2.40* (1.19 – 4.85)	2.35* (1.14 – 4.83)
Very likely	15/94	16.0	1.96 [†] (0.90 – 4.30)	1.82 (0.82 – 4.06)
Don't Know	3/75	8.1	1.03 (0.30 – 3.61)	0.87 (0.23 – 3.16)
Number of Sexual Partners in last 12 months				
1	148/1034	14.3	1.00	1.00
2+	19/80	23.8	1.54 [†] (0.99 – 2.40)	1.39 (0.85 – 2.26)
Age of sexual partners				
Less than 10 years	126/813	15.5	1.00	1.00
10 years or more	40/301	13.3	0.89 (0.64 – 1.24)	0.88 (0.63 – 1.24)
FAMILY LEVEL CHARACTERISTICS				
Wealth				
High	42/351	12.0	1.00	1.00
Average	46/277	16.6	1.41 [†] (0.95 – 2.08)	1.41 [†] (0.95 – 2.10)
Low	79/486	16.3	1.40 [†] (0.98 – 2.01)	1.36 (0.94 – 1.98)

	n/N ^a	%	Unadjusted RR (95% CI)	Adjusted RR ^{bc} (95% CI)
Polygamous Household				
No	158/1012	15.6	1.00	1.00
Yes	9/102	8.8	0.57 [†] (0.30 – 1.08)	0.55 [†] (0.29 – 1.02)
Family Size	-	-	0.96 (0.86 – 1.08)	1.00 (0.90 – 1.11)
Parental Vital Status				
Both alive	82/590	13.9	1.00	1.00
Both deceased	23/174	13.2	0.97 (0.62 – 1.51)	0.92 (0.59 – 1.43)
Mom alone deceased	28/120	23.3	1.67* (1.12 – 2.49)	1.56* (1.08 – 2.30)
Dad alone deceased	34/230	14.8	1.08 (0.74 – 1.57)	1.06 (0.72 – 1.54)

Notes. CI=confidence interval

^aTotal N may be less than the grand total due to a small number of missing responses in some variables;

^bAdjusted for other variables in the table;

^cAdjusted model N=1109

[†]P<0.10;

* P < .05;

** P < .01;

*** P < .001