



Published in final edited form as:

AIDS Care. 2012 March ; 24(3): 291–300. doi:10.1080/09540121.2011.608784.

Individual and Community-Level Tolerance of Spouse Abuse and the Association with the Circumstances of First Sex among Youth from Six Sub-Saharan African Countries

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Abstract

Youth who engage in early and premarital sex are at risk of HIV and sexually transmitted infections. Most prevention programs ignore the mediating influence of the threat and experience of violence on these outcomes. Using nationally representative data from Lesotho, Malawi, Zimbabwe, Kenya, Tanzania, and Uganda, multivariate analyses examined the association between individual and community-level tolerance of spouse abuse on the age and circumstances of sexual debut among female youth. The youth sample sizes ranged from a high of 5,007 in Malawi to a low of 3,050 in Lesotho. In the study countries, there were between 521 and 367 communities included in the analysis. Youth who approved of spouse abuse were more likely to have sexually debuted at each age. In Kenya, youth from communities with high female spouse abuse tolerance were more likely to have initiated sex at each age. In Malawi and Zimbabwe, youth from high tolerance communities were less likely to have sexually debuted at each age or to have had premarital sex; the same effect on premarital sex was found for men's tolerance in Kenya and Tanzania. Programs are needed to reduce violence risk and increase youth negotiating power and delayed sexual debut with the objective of reducing young people's risk of negative outcomes.

Keywords

spouse abuse; sexual debut; HIV; youth; sub-Saharan Africa

Introduction

Young women who engage in early and premarital sex increase their risk of human immunodeficiency virus (HIV) and sexually transmitted infections (STI) through various mechanisms. Early and premarital sexual debut are associated with a) having more lifetime sexual partners; b) less condom and other contraceptive use; c) sexual activity with an older partner, limiting a young woman's decision-making influence; and d) a longer duration of exposure to sex with (marital) partners who may have other sex partners (Blanc & Way, 1998; Saewyc, Magee, & Pettingell, 2004; Hallett et al., 2007; Longfield, Glick, Waithaka & Berman, 2004; Luke, 2003; Pettifor, van der Straten, Dunbar, Shiboski, & Padian, 2004; Jewkes, Vundule, Maforah & Jordaan, 2001; Koenig et al., 2004). In addition, young women who sexually debut early are more likely to have experienced coercive first sex and be exposed to sexually and physically violent relationships later in life (Saewyc, Magee, &

Pettingell, 2004; Moore, Awusabo-Asare, Madise, John-Langba, & Kumi-Kyereme, 2007; Garcia-Moreno & Watts, 2000; Dunkle et al., 2004).

Most studies that examine the linkages between violence and youth sexual risk-taking behaviors focus on individual-level risk factors (Pettifor, Measham, Rees, & Padian, 2004; Maharaj & Munthre, 2007). Recently there has been an emphasis on taking a more ecological approach to examining violence and sexual risk-taking, recognizing that young people are influenced by the context within which they live (Heise, 1998; Gómez & Speizer, 2010; Speizer, Pettifor, Cummings, MacPhail, Klienschmidt & Rees, 2009). This study applies this contextual approach by examining the mediating influence of tolerance of spouse abuse at the individual- and community-levels on the timing and circumstances of first sex among female youth ages 15-24 from six sub-Saharan African countries. We hypothesize that young women from communities with higher tolerance of spouse abuse are less likely to delay sexual debut or remain abstinent until marriage than young women from communities with lower tolerance of spouse abuse. There are two potential mechanisms for this hypothesized effect. Women from communities more tolerant of partner violence may be less likely to decline sexual advances because they fear that they will become victims of partner violence, and/or young women may experience earlier and premarital sex in such communities due to greater exposure to forced or coerced first sex. The relationship may also go the other way; in communities where early voluntary sexual initiation is stigmatized, spouse abuse may be considered justified if sexual social norms are not followed.

Studies from sub-Saharan Africa (SSA) indicate that forced sex and spousal abuse are common phenomena. A study of youth ages 12-16 in Uganda, Ghana, and Malawi demonstrated that around a quarter of youth reported that they were 'not willing' at the time of first sex (Moore et al., 2007). In Burkina Faso, the prevalence of unwilling first sex was lower at 15% (Moore et al., 2007). In a study of five African sites, Chapman and colleagues found between 9% and 22% of female youth ages 19-22 had ever experienced forced sex (Chapman et al., 2010). The prevalence of spousal abuse in the last year ranges from 5-29% in various population-based studies from SSA (Rumbold, 2008; Watts and Mayhew, 2004; Kishor and Johnson, 2004). In the four study countries with data on women's ever experience of physical or sexual violence, the prevalence ranges 27% in Malawi to 59% in Uganda. Furthermore, in Zimbabwe, 10% of never married youth reported that they ever experienced sexual violence; the corresponding percentage was 18% in Uganda.

Methods

Data

Three countries with HIV prevalence over 10% (Lesotho, Malawi, Zimbabwe) and three countries with prevalence between 5-10% (Kenya, Tanzania, and Uganda) were selected for this study. Data come from Demographic and Health Surveys (DHS) undertaken in the period 2003-2006. The DHS include large, nationally representative samples of women ages 15-49 and men ages 15-59. DHS surveys use a multi-stage sampling design stratifying for urban and rural residence and then selecting a representative sample of primary sampling units (PSU) from each strata. In each sampled PSU about 20-30 households are selected for inclusion.

For this study, only female youth ages 15-24 were included. The weighted sample sizes vary from 3,050 youth in Lesotho to 5,007 youth in Malawi (see Table 1). For this study, youth who are "in union" are those who are married or cohabiting with their partner. Because the experiences around sexual debut may differ between youth ever in union and youth never in union, the analyses were stratified by union status. This permits the examination of the timing and experience of premarital sexual debut among youth never in union and whether

first sex was premarital or in union among youth ever in union. The weighted sample sizes of never in union and ever in union youth are presented in Table 1.

To measure the community-level variables, data on spouse abuse attitudes from women of all ages were aggregated to the PSU level. To avoid bias introduced by creating community-level variables from small communities, those PSUs that included less than ten women were dropped from the analysis; this led to dropping less than 4% of the sample in any country. Therefore, the community-level variables are informed by the representative sample of all women (and men) in the study countries; the number of women in the study countries ranges from 7,095 in Lesotho to 11,698 in Malawi. For men, the number ranges from 2,503 in Uganda to 7,175 in Zimbabwe.

Variables

For the never in union sample, the dependent variable was age at sexual debut. For sexually inexperienced never married youth, the age at the time of survey was considered in the time-to-event analysis. For ever in union youth, the dependent variable was categorized as first sex premarital versus first sex in union. A conservative approach was taken to code whether first sex was premarital or marital given that the first sex variable was a whole number and not provided in a month and year format.

The key independent variable comes from five questions about scenarios in which spouse abuse is considered acceptable (see Table 2 for scenarios). These scenarios were developed as part of the World Health Organization Multi-Country Study (WHO, 2005) and are now part of standard DHS Modules. An overall agreement variable was coded one if the respondent agreed with spouse abuse in any of the five scenarios and zero if spouse abuse was never considered acceptable.

To examine community-level tolerance of spouse abuse, the weighted average percentage of women (15-49) in each community (PSU) who agreed with spouse abuse in any of the five scenarios was calculated. Data are aggregated to the level of the PSU. The number of PSUs ranges from a low of 367 in Lesotho to a high of 521 in Malawi. Likewise for men, a weighted community-level average percentage of men who agreed with spouse abuse in any of the scenarios was calculated. All communities were included, whether or not there were a minimum number of men surveyed since the male sample sizes were significantly smaller. The small sample size in some communities is a limitation of including the male community-level variables. Correlations between the individual and female and male community-level tolerance variables were examined. As expected, correlations were higher between the individual-level and women's level variables since individuals from a community contribute to the community-level measure. In five out of six of the countries, these correlations were between 0.34-0.45; the exception was in Zimbabwe where this correlation was higher at 0.50. The other correlation that was above 0.40 was for the community-level female and male attitudes in Zimbabwe (correlation was 0.55). In the results section, we discuss the implications of higher correlations on the results, when applicable.

All analyses controlled for education level (none, primary, secondary or higher), and residence (rural vs. urban). Religion was included in each country-level analysis as a set of dummy variables, with appropriate country-specific codes. Socioeconomic status was included in all analyses based on the DHS-calculated wealth quintile (Rutstein & Johnson, 2004). Selection of individual-level variables to include was based on previous research on the circumstances of sexual debut (Hallett et al., 2007; Kabiru & Ezech, 2007; Agha, Hutchinson & Kusanthan, 2006; Lammers, Ireland, Resnick, & Blum, 2000; Agha, 2009; Babalola, 2004; Upadhyay & Hindin, 2007; Fatusi & Blum, 2008).

Analyses

Multivariate analyses of the never in union sample were carried out using Cox proportional hazards regression of age at sexual debut. For the ever in union sample, logistic regression methods were employed. Three models are presented for each analysis. Model 1 included an individual's attitude toward spouse abuse, controlling for the socio-demographic factors. Model 2 adds women's community-level tolerance. Model 3 adds men's community-level tolerance. In the tables presented, only the individual and community-level tolerance variables are shown. Both the hazard models and the logistic regression models were performed using weights and adjusting for the multi-stage survey sample design of the DHS. By using this approach (i.e., using svy commands in STATA, version 11), the correlational nature of the data (i.e., intraclass correlation) is accounted for. To test the robustness of our logistic regression models, we also ran the analyses with the ever in union sample using explicit random effects methods; the results from these analyses provided the same conclusions to those presented and thus are not included in this presentation.

Results

Table 1 provides summary statistics of the female youth samples from the six countries. The percentage of youth in union varies from 37% in Lesotho to 64% in Malawi. Among youth never in union, the percentage that ever had sex is between one-third and two-fifths; Zimbabwe is the exception where only 19% ever had sex. Across most countries, about a quarter of 15-19 year olds who are never in union had ever had sex while about two-thirds of 20-24 year olds had ever had sex.

Also presented in Table 1 is the percentage of youth ever in union that had first sex in union. Women ages 15-24 in Zimbabwe were the most likely to have had first sex in union (73%). In Malawi and Lesotho, nearly two-thirds of female youth reported first sex in union. In Tanzania and Uganda, around 56% of youth reported first sex in union and the lowest percentage is in Kenya where only 43% of youth reported first sex in union.

Table 2 presents the tolerance of spouse abuse under the varying scenarios. Spouse abuse approval is highest in Kenya and Uganda and lowest in Malawi. Comparing between the different scenarios, spouse abuse was considered the most acceptable if the woman neglects the child, she argues with the husband or she goes out with permission. The least common scenarios were if she burns the food or she refuses sex. Any tolerance among women and men was highest in Uganda and Kenya and lowest in Malawi.

Multivariate Analyses

Female Youth Never In Union—In five out of six countries, youth who approved of spouse abuse were about 1.2 times more likely to have sexually debuted at each age than those who did not approve (Model 1, Table 3). Model 2 includes both the individual-level and women's community-level tolerance, controlling for the demographic factors. In four of the five countries where the individual-level attitude was significant in Model 1, the effect was about the same magnitude and significance in Model 2; similar individual-level effects were found in Model 3. The consistent individual-level effects with community-level variables included suggest that multicollinearity is not a problem in most of the countries included. The one exception is Uganda where the addition of the women's community-level tolerance attenuates the effect of an individual's own tolerance. When either the individual-level tolerance or the women's community-level tolerance is in the model alone, it is positive and significant; men's tolerance is never significant in the model, even when introduced alone.

In Kenya, controlling for demographic factors and an individual's spouse abuse tolerance, youth who were never in union and from a community with higher female tolerance of spouse abuse were more likely to have sexually debuted at each age than their counterparts from lower tolerance communities (Models 2 and 3). In Tanzania and Uganda, the direction of women's community-level tolerance was the same (positive); however, the effects are not significant.

The pattern in Zimbabwe and Malawi was different and revealing. Never in union youth from communities with higher female tolerance were significantly *less* likely to have engaged in premarital sex at each age than never in union youth from communities with lower tolerance. Likewise, Malawian youth from communities where a higher proportion of men tolerated spouse abuse were significantly less likely to have had early and premarital sex than youth from communities with less male tolerance (Model 3).

Ever In Union Female Youth—Table 4 presents the logistic regression odds ratios and confidence intervals from the analyses of first sex circumstances among in union youth. Model 1 demonstrates an effect of individual-level tolerance in Tanzania (odds ratio greater than one) and Zimbabwe (odds ratio less than one). In the models that include community-level tolerance the effect of individual-level tolerance in Zimbabwe and Tanzania are no longer significant; this reflects multicollinearity between individual and women's community-level tolerance.

Model 2 and Model 3 in Table 4 present the findings that included the women's and men's community-level tolerance. In Tanzania, youth who were ever in union and from communities with higher female tolerance were significantly more likely to have had premarital first sex than their counterparts from communities with lower tolerance (Model 2). Conversely, for Tanzania (Model 3), youth from communities with higher men's tolerance were significantly less likely to have had premarital first sex than youth from communities with lower male tolerance. Removing women's community-level tolerance, the individual-level one becomes positive and significant, thus these two are capturing a similar positive effect; however, the men's effect stays consistent, even in models with just this variable and thus is capturing a different and negative effect. In Kenya, only men's tolerance was associated with the circumstances of first sex among married youth in the same negative direction as in Tanzania. In Malawi and Zimbabwe, youth from communities with higher women's community-level tolerance were significantly less likely to have had premarital first sex. There was no effect of men's tolerance in these two countries.

Discussion

Recognizing that young women do not always control the circumstances and timing of first sex and that they live within a context that influences their sexual and reproductive behaviors, we examined the role of individual- and community-level tolerance of spouse abuse on first sex experience among female youth ages 15-24 in six SSA countries. The hypothesis being tested was that youth who personally approve of spouse abuse and youth from communities that are more tolerant of spouse abuse will be more likely to have premarital and/or early sexual debut, increasing their overall risk of HIV/STI.

Never in union youth who approved of spouse abuse were more likely to have sexually debuted at each age than their counterparts who did not approve. In Kenya, never in union youth from communities where a higher percentage of women tolerated spouse abuse were more likely to have sexual debuted at each age than their counterparts from lower tolerance communities. Similarly, ever in union Tanzanian youth from higher female tolerance communities were more likely to have had premarital rather than marital first sex. These

were the hypothesized associations between spouse abuse tolerance and premarital sexual behaviors.

Conversely, the opposite effect was also found for women's and men's tolerance of spouse abuse and the circumstances of first sex among never in union and ever in union youth in Malawi and Zimbabwe and for men's tolerance and the circumstances of first sex among ever in union youth in Tanzania and Kenya.

The protective effect of community level tolerance may reflect tighter controls on sexual activity in communities that are more tolerant of spouse abuse compared to fewer controls in communities that are less tolerant. For example, if traditional communities are tolerant of spouse abuse but not tolerant of premarital sex then attitudes toward premarital sex may prevail. Alternatively, in urban areas spouse abuse is unlikely to be tolerated whereas in these same urban areas there may be more premarital sex. In these cases, premarital sex is not necessarily determined by spouse abuse tolerance, or at least not in the hypothesized direction.

The results are less consistent among the ever in union youth. This may reflect experience with spouse abuse in youth's current union. Thus, current spouse abuse attitudes may not reflect the attitudes at the time of first sex. Similarly, the community-level attitude may not reflect the in union youth's community at the time of sexual debut, especially if she debuted prior to marriage, since many women in sub-Saharan Africa move to their husband's home at the time of marriage.

These findings should be considered in light of other studies that examine youth sexual risk-taking using violence (or tolerance of violence) as a key risk factor. A small number of studies examine the effect of violence experience on youth sexual behaviors and outcomes (Koenig et al., 2004; Pettifor, Measham, Rees, & Padian, 2004; Harrison, O'Sullivan, Hoffman, Dolezal, & Morrell, 2006; Dunkle et al., 2006; Jewkes et al., 2006; Speizer et al., 2009; Gómez & Speizer, 2009; Gómez & Speizer, 2010). Two studies from South Africa demonstrate that violence experience at the individual-level is associated with youth condom use but not with youth HIV status (Pettifor, Measham, Rees, & Padian, 2004; Speizer et al., 2009). One of these studies examined community-level influences and demonstrated that youth from communities with a higher prevalence of violence threats or experience were more likely to have not used a condom at last sex, be HIV positive, and to have had an adolescent pregnancy as compared to youth from communities with lower violence threats or experience (Speizer et al., 2009). None of these studies, however, examine individual- and community-level tolerance of spouse abuse and the association with the timing and circumstances of sexual debut, as was done in this study.

The current study has limitations that are important to mention. First, the timing and circumstances of sexual debut is self-reported; self-reported sexual behaviors may be under-reported (Curtis & Sutherland, 2004). Second, whether first sex was premarital or in union may include error because timing of first sex is not available in a month/year format; a conservative approach was taken to code this variable. Third, tolerance of spouse abuse may be misreported due to social desirability bias. Fourth, cross-country analyses are limited because when unexpected patterns are found, the data do not permit an examination of *why* the findings are such. Fifth, community-level tolerance only represents women who were surveyed between the ages of 15-49 (and men ages of 15-59). If older women (or men) in the community are more influential on young women's behaviors, these women's (or men's) attitudes would not be reflected. Finally, communities were represented by PSU with ten women who answered the relevant questions on spouse abuse tolerance. Ten is an arbitrary cut-point and the results might be different if a larger cut-point were included; the need for

large samples at the community level to accurately portray the characteristics of the community is a limitation of multi-level analysis.

To conclude, this study demonstrates that individual and community-level tolerance of spouse abuse matter; however, the community-level effect is not necessarily consistent across countries and between women's and men's tolerance. Given the importance of a young woman's own attitude toward spouse abuse on never married premarital sexual experience, programs are needed to a) change social norms about the acceptability of spousal abuse and b) increase young women's self-efficacy in negotiating sex and resisting violence. Programs through the mass media, community mobilization and one-on-one counseling that target social norms should start at an early age so that as young people move into the reproductive years, they are exposed to protective norms at the individual and community levels.

Notably, while in some countries community-level tolerance of spouse abuse was protective against early and premarital sexual debut, these findings indicate the need to better understand the context within which women (and men) are initiating sex. In particular, qualitative data collection is needed in these countries to better understand the distinctions between women's and men's spouse abuse tolerance and other community norms and characteristics that may influence gender-based violence, premarital sexual debut, and risk of HIV among young women.

Acknowledgments

The author would like to thank Anu Manchikanti Gómez for her valuable insights into this paper. This study was supported by Grant Number 1R03HD0551101A1 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development. The contents of this paper are solely the responsibility of the authors and do not necessarily represent the official views of the National Institute of Child Health and Human Development.

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Table 1

Summary information on female youth from six DHS countries

	Lesotho, 2004 (3,050)	Malawi, 2004 (5,007)	Zimbabwe, 2005/6 (4,085)	Kenya, 2003 (3,532)	Tanzania, 2004 (4,226)	Uganda, 2006 (3,646)
Age: 15-19	53.7%	45.5%	52.5%	52.4%	52.8%	53.1%
20-24	46.3%	54.5%	47.5%	47.6%	47.2%	46.9%
Wealth: Poorest	14.9%	16.5%	16.1%	15.1%	16.7%	16.6%
Poor	18.9%	19.1%	16.6%	17.7%	19.2%	18.7%
Medium	19.7%	20.2%	17.4%	19.0%	18.4%	17.5%
Rich	22.8%	20.3%	22.0%	21.5%	17.9%	17.9%
Richest	23.8%	23.8%	27.9%	26.7%	27.8%	29.3%
Education: None	0.7%	8.8%	0.5%	6.9%	21.9%	7.3%
Primary	56.7%	68.9%	26.3%	64.8%	67.3%	63.2%
Secondary or higher	42.6%	22.3%	73.3%	28.3%	10.8%	29.5%
Marital Status: Never in union	62.6%	35.7%	53.6%	59.1%	49.3%	51.5%
Ever in union	37.4%	64.3%	46.4%	40.9%	50.7%	48.5%
Female youth never in union	(1,910)	(1,788)	(2,187)	(2,088)	(2,083)	(1,876)
Percent who ever had sex	42.7%	32.6%	18.9%	36.6%	37.7%	34.3%
• % 15-19 ever had sex	30.7%	25.5%	11.0%	27.5%	29.5%	26.6%
• % 20-24 ever had sex	71.1%	64.2%	42.1%	58.6%	65.2%	65.4%
Female youth ever in union	(1,140)	(3,219)	(1,898)	(1,445)	(2,143)	(1,770)
Percent who had first sex:						
Premarital	44.0%	35.2%	26.9%	56.9%	43.5%	43.6%
In union	66.0%	64.8%	73.1%	43.1%	56.5%	56.4%

Note: sample sizes of female youth are weighted and based on sample that drops female youth from primary sampling units with less than 10 observations (analysis sample)

Percentage of all women and men who approve of spouse abuse under various scenarios and percentage of women and men who tolerate spouse abuse under any scenario by country

Table 2

	Lesotho, 2004	Malawi, 2004	Zimbabwe, 2005/6	Kenya, 2003	Tanzania, 2004	Uganda, 2006
Women's reports:	(6,775)	(11,111)	(8,864)	(8,137)	(10,276)	(8,527)
Wife goes out without permission	25%	14%	33%	41%	43%	52%
Wife neglects child	37%	17%	30%	57%	47%	56%
Wife argues with husband	36%	12%	26%	47%	46%	40%
Wife refuses sex	20%	14%	24%	31%	29%	31%
Wife burns food	13%	11%	12%	18%	20%	23%
Men's reports:	(2,794)	(3,261)	(7,175)	(3,569)	(2,635)	(2,503)
Wife goes out without permission	30%	7%	22%	35%	27%	40%
Wife neglects child	38%	8%	21%	50%	28%	44%
Wife argues with husband	39%	8%	21%	41%	23%	35%
Wife refuses sex	20%	7%	8%	25%	15%	19%
Wife burns food	13%	4%	7%	13%	11%	14%
Women's tolerance of spouse abuse under any scenario	49%	28%	48%	68%	60%	70%
Men's tolerance of spouse abuse under any scenario	51%	16%	36%	63%	42%	59%

Table 3

Cox regression hazard ratios for age at first sex among youth ages 15-24 never in union from six countries (Model 1 with individual-level attitudes^a; Model 2 with the addition of women's community-level tolerance^b; Model 3 with the addition of men's community-level tolerance^c)

<i>Outcome: Age at First Sex</i>	Lesotho, 2004 n=1906	Malawi, 2004 n=1771	Zimbabwe, 2005/6 n=2187	Kenya, 2003 n=2068	Tanzania, 2004 n=2075	Uganda, 2006 n=1866
Model 1						
• Approves of spouse abuse	1.25 (1.07-1.47)**	0.96 (0.73-1.25)	1.23 (1.01-1.48)*	1.31 (1.12-1.55)***	1.25 (1.06-1.47)**	1.21 (1.02-1.44)*
Model 2						
• Approves of spouse abuse	1.30 (1.10-1.54)**	1.08 (0.79-1.49)	1.46 (1.18-1.81)***	1.24 (1.05-1.47)*	1.22 (1.02-1.45)*	1.13 (0.94-1.37)
• Women's community tolerance of spouse abuse	0.71 (0.39-1.27)	0.38 (0.21-0.72)**	0.46 (0.27-0.78)**	2.12 (1.21-3.71)**	1.18 (0.72-1.96)	1.58 (0.91-2.75)
Model 3						
• Approves of spouse abuse	1.29 (1.09-1.52)**	1.07 (0.78-1.48)	1.46 (1.18-1.80)***	1.24 (1.05-1.47)*	1.21 (1.01-1.44)*	1.14 (0.94-1.37)
• Women's community tolerance of spouse abuse	0.76 (0.42-1.38)	0.45 (0.24-0.85)*	0.52 (0.28-0.94)*	2.09 (1.19-3.67)**	1.23 (0.74-2.06)	1.54 (0.86-2.75)
• Men's community tolerance of spouse abuse	0.83 (0.56-1.23)	0.57 (0.34-0.97)*	0.70 (0.36-1.37)	1.04 (0.73-1.47)	0.82 (0.60-1.14)	1.06 (0.73-1.53)

Note: All models control for religion, residence, education, wealth quintile. Actual sample sizes somewhat smaller than full youth never in union sample due to some missing data.

^a Individual-level women's attitude is coded as approve if the woman says she approves of spouse abuse in any of the five scenarios and disapprove if she reports that spouse abuse is not acceptable in any scenario.

^b Women's community-level tolerance of spouse abuse is created as the weighted average of attitudes toward spouse abuse among women of all ages.

^c Men's community-level tolerance of spouse abuse is created as the weighted average of attitudes toward spouse abuse among men of all ages.

* p ≤ 0.05

** p ≤ 0.01

*** p ≤ 0.001. Weighted n's shown.

Table 4

Logistic regression odds ratios (confidence intervals) for circumstances of first sex among ever in-union youth ages 15-24 (Model 1 with individual-level attitudes^a; Model 2 with the addition of women's community-level tolerance^b; Model 3 with addition of men's community-level tolerance^c)

<i>Outcome: Circumstances of First Sex: Premarital vs. In union</i>	Lesotho, 2004 n=1134	Malawi, 2004 n=3183	Zimbabwe, 2005/6 n=1893	Kenya, 2003 n=1390	Tanzania, 2004 n=2130	Uganda, 2006 n=1765
Model 1						
• Approves of spouse abuse	1.04 (0.78-1.40)	0.87 (0.72-1.05)	0.76 (0.59-0.98) [*]	1.26 (0.92-1.71)	1.27 (0.99-1.62) [†]	0.94 (0.73-1.21)
Model 2						
• Approves of spouse abuse	1.04 (0.77-1.39)	1.04 (0.85-1.27)	1.05 (0.77-1.42)	1.29 (0.94-1.78)	1.12 (0.87-1.45)	0.94 (0.72-1.24)
• Women's community tolerance of spouse abuse	1.04 (0.36-3.02)	0.31 (0.17-0.56) ^{***}	0.19 (0.08-0.43) ^{***}	0.78 (0.25-2.40) [*]	2.29 (1.06-4.93) [*]	1.00 (0.47-2.12)
Model 3						
• Approves of spouse abuse	1.04 (0.78-1.40)	1.04 (0.85-1.27)	1.04 (0.77-1.42)	1.29 (0.94-1.78)	1.14 (0.88-1.48)	0.94 (0.71-1.23)
• Women's community tolerance of spouse abuse	1.26 (0.40-3.97)	0.34 (0.19-0.62) ^{***}	0.20 (0.07-0.55) ^{**}	0.91 (0.29-2.79) ^{**}	2.96 (1.33-6.59) ^{**}	0.86 (0.39-1.88)
• Men's community tolerance of spouse abuse	0.55 (0.26-1.14)	0.67 (0.40-1.12)	0.82 (0.30-2.28)	0.47 (0.24-0.93) [*]	0.46 (0.28-0.74) ^{**}	1.39 (0.91-2.13) ^{**}

All models control for age, religion, residence, education, wealth quintile. Actual sample sizes somewhat smaller than full youth ever in union sample due to some missing data.

^a Individual-level women's attitude is coded as approve if the woman says she approves of spouse abuse in any of the five scenarios and disapprove if she reports that spouse abuse is not acceptable in any scenario.

^b Women's community-level tolerance of spouse abuse is created as the weighted average of attitudes toward spouse abuse among women of all ages.

^c Men's community-level tolerance of spouse abuse is created as the weighted average of spouse abuse among men of all ages.

[†] p ≤ 0.10

* p ≤ 0.05

** p ≤ 0.01

*** p ≤ 0.001. Weighted n's shown.