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Gender attitudes, sexual risk, intimate partner violence, and coercive sex among adolescent gang members

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Abstract

Purpose: Adolescent gang members are at greater risk of poor sexual health outcomes than non-gang members. Gang members' beliefs about gender may explain variation in their sexual health outcomes. The purpose of this study is to examine how gangs' and gang members' beliefs about gender are associated with sexual health outcomes, including sexual risk-taking, intimate partner violence, and coercive sex.

Methods: Gang members ($N = 281$; 46% female; 73% Black/African American, 25% Hispanic/Latino, 4% White, age = 14–19) from 32 gangs completed surveys. Multilevel models assessed how gang norms and individuals' beliefs about women/girls as romantic partners, gang members, and sexual partners were associated with sexual risk-taking, intimate partner violence, and coercive sex (forced sex and gang rape).

Results: Gangs and individual gang members who held more equitable beliefs about girls' role as gang members were at increased risk of experiencing several negative outcomes, including intimate partner violence victimization and perpetration, forced sex victimization, and gang rape victimization. These associations were stronger for gangs with a higher ratio of male members to female members. In contrast, equitable beliefs about women/girls as romantic and sexual partners were protective against intimate partner violence and coercive sex victimization and perpetration.

Conclusion: Interventions that address gender beliefs among gang members may improve intimate partner violence and coercive sex. These programs may be most effective if they aim to

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Implications and Contribution

Respect for girls in gang roles may be detrimental to gang members' sexual health (intimate partner violence and coercive sex), but equitable gender beliefs about romantic and sexual relationships may be protective. Sexual health interventions for gang members may benefit by seeking to improve equitable gender norms in intimate relationships.

Conflicts of Interest

The authors have no conflicts of interest to report.

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improve equity in sexual and romantic relationships, rather than focusing on respect for female gang members.

Keywords

Gangs; gender beliefs; sexual health; intimate partner violence; sexual assault

Adolescent sexual health includes physical, emotional, and relationship health components [1]. Adolescents are at greater risk for negative sexual health outcomes than other age groups [2], and adolescent gang members are at still greater risk than their peers uninvolved in gangs. Gang members are more likely to experience sexually transmitted infections (STIs), HIV, and unintended pregnancy [3–5]. Gang membership is associated with increased risks of intimate partner violence (IPV) and coercive sex victimization for boys and girls [6], and increased IPV and coercive sex perpetration for boys [7]. Although past research has established links between gang membership and poor sexual health, less is known about variation in sexual risk-taking, IPV, and coercive sex within gangs. Peer groups, including gangs, contribute to group norms and individual beliefs that influence adolescents' behavior [8–9]. Norms and beliefs about gender may be particularly important in explaining gang members' sexual health.

Gang Gender Norms and Sexual Health

Equitable gender norms related to heterosexual relationships refer to the idea that relationships should be based on equality, respect, and intimacy [10]. In romantic relationships, equitable beliefs indicate that partners should be equals in care-giving and household responsibilities, have equal amounts of agency in decision-making, and be opposed to violence. In sexual relationships, men and women should have equal sexual agency and equal rights and responsibility in making decisions for sexual and reproductive health.

Inequitable gender norms that subjugate women can negatively affect sexual health, including sexual risk-taking, IPV, and coercive sex. Such norms proscribe condom use because men are entitled to sexual pleasure [11]. Inequitable gender norms also permit men to use violence to enforce rules, leading to increased IPV and coercive sexual victimization of women [12,13]. Inequitable gender norms may also promote female-perpetrated IPV. Female-perpetrated IPV is often violent resistance to male-initiated aggression or a characteristic of arguments that escalate to violence, rather than intimate terrorism focused on domination and control [14–17]. If girls adhere to inequitable gender norms, they may initiate IPV in situational couple violence scenarios or as violent resistance to boys' aggression because these beliefs normalize violence.

Risks to sexual health resulting from inequitable gender norms may be compounded for gang members due to violent and sexualized gang activities. Within gangs, norms that subjugate women/girls may increase sexual risk-taking through gang activities such as running trains (multiple men consecutively having sex with one woman) or sexing in (gang initiation involving sexual behavior) [11,18]. Norms that require female submission may also increase women's/girls' risk of violent victimization by their own gang members [19].

Variation in gender norms may explain differences in gang members' sexual health. Although gang gender norms have generally been characterized as hypermasculine and chauvinist, there is variation in gangs' beliefs about women's and girls' roles, with some gangs holding more equitable beliefs than others [12,14,21–23]. Understanding how this variation is associated with multiple components of gang members' sexual health will improve understanding of the group processes that contribute to gang members' sexual health.

Furthermore, there is variation in the types of gender norms that are present in gangs, including beliefs about the roles of women and girls as romantic partners, gang members, and sexual partners [12,13,21–23]. These beliefs represent different facets of norms about gender, all of which may affect sexual health. Inequitable norms regarding romantic and sexual relationships may be associated with greater sexual risk-taking, IPV, and coercive sex [24–25]. These norms give men greater agency in decision-making, including sexual and reproductive decision-making, and allow them to use violence to enforce rules [10–13].

In contrast, equitable gender norms regarding gang roles may be detrimental to sexual health. Female gang members who do not engage in “masculine” activities can lose respect from their peers [19]; in contrast, female gang members who are respected may be expected to engage in the same masculine activities, including risky and coercive sex [27], that are expected of male gang members. In addition to sexual risk/coercive sex during daily life, sexual risk during gang initiation through activities like “sexing in” may be a way for female gang members to demonstrate their commitment to the gang [11]. In gangs where girls are afforded the same respect as their male peers, they may have to use violence to earn this respect [20,26]; this association between respect and female gang members' violence may extend to IPV.

Gang Norms Versus Individual Beliefs

Both gang norms and individual beliefs may influence behavior. Gang gender norms are the collective beliefs of the gang about women. Individual gang members also hold private beliefs about the role of women, which may correspond to the group norm or diverge from it [28]. Individuals whose privately-held beliefs diverge from the norm may behave differently than their peers. For example, research on binge drinking has found that adolescents with more positive beliefs about alcohol than their peers tend to drink more than their peers [29]. This research demonstrates that individuals act consistently with their privately-held beliefs when those beliefs differ from group norms. Gang members with more equitable beliefs about romantic relationships than their fellow gang members, for example, may be less involved in sexual risk-taking, IPV, and coercive sex than other gang members.

The Present Research

The goal of the present research is to examine how gangs' gender norms and gang members' gender beliefs are associated with sexual risk-taking (STI diagnosis, HIV testing, number of sex partners, condomless sex, group sex), IPV, and coercive sex (forced sex and gang rape). Understanding these processes can inform prevention/intervention efforts that account for

peer norms and perceptions of normative behavior. By assessing beliefs at the levels of the gang and the individual, we can determine how individual beliefs that cohere with or diverge from group norms are associated with behavior.

We hypothesize that gangs with less equitable norms about women/girls as romantic partners and sexual partners will have higher rates of sexual risk-taking, more IPV, and higher rates of coercive sex. Individuals with less equitable beliefs about women/girls as romantic partners and sexual partners than others in their gang will be more likely to engage in sexual risk-taking, experience more IPV, and be more likely to experience coercive sex. We propose that gangs and individuals with more respect for female gang members will experience more sexual risk-taking, IPV, and coercive sex, as female members may be expected to engage in violence and other risk taking at similar rates as male gang members. We also explore gender interactions at the individual and gang levels because sexual risk-taking, IPV, and coercive sex are highly gendered experiences [30,31].

Methods

Participants and Procedure

Participants come from a study on adolescent gang membership in a mid-sized Midwestern city. Initial participants were recruited through community events, schools, and community organizations. Additional participants were recruited through the referral of initial participants. Eligibility criteria included being between 14 and 19 years old (mean = 17.4, SD = 1.5), a member of a gang in the city, and providing informed consent. Participants completed the survey by ACASI in a number of neutral sites within their neighborhoods (e.g., a church). Participants received \$30 for completing the study survey and an additional \$10 if they recruited a fellow gang member to the study. We received a waiver of parental consent for participants under 18 years old. All procedures were approved by the investigators' Institutional Review Board.

Measures

Sexual risk-taking—Participants indicated whether they had been *tested for HIV* in their lifetime; ever *had an STI diagnosis* (HIV, HPV, Hepatitis C, gonorrhea, syphilis, genital warts, chlamydia, genital herpes, crabs, trichomoniasis, any other STI) in their lifetime; and *number of vaginal sexual partners* in the past 30 days. Among participants who had sex in the past 30 days, *proportion of sex without condoms* was calculated from responses to the questions, “Altogether, how many times did you have sex in the last 30 days?” and, “Altogether, how many times did you have sex without a condom in the last 30 days?” Participants who had sex in the past 30 days indicated whether they had engaged in *group sex* (“sex with more than one person at a time— e.g. group sex, trains, flipping, sexing in”) in the past 30 days.

IPV victimization and perpetration.—Participants who had a main partner in the past year answered six items about IPV victimization (e.g., “How often in the past year has your partner slapped, kicked, or hit you?”) and six questions about IPV perpetration (e.g., “How often in the past year have you belittled or humiliated your partner?” [32]). Items were

scored on a scale from 0 (Never) to 6 (More than 20 times). The average response for each scale was used in analyses.

Forced sex victimization and perpetration.—We measured forced sex victimization with the question, “Were you ever forced to have sex with someone when you really didn’t want to?” We measured forced sex perpetration with the question, “Have you ever had sex with someone when they said they didn’t want to?”

Gang rape victimization and perpetration.—We measured gang rape victimization with the question, “Have you ever been a victim of gang rape?” We measured gang rape perpetration with the question, “Have you ever participated in a gang rape?”

Equity in romantic relationships.—Participants completed 19 items from the Gender-Equitable Men Scale (GEM [10]), in which they rated the extent to which they agreed with statements about the roles of women and girls as romantic partners, sexual partners, and parents (e.g., “If a woman cheats on a man it is okay for him to hit her”) on a scale of 1 (Strongly disagree) to 5 (Strongly agree). We used the average score across items in analyses. We reverse scored some items, such as the sample item above, so that higher scores indicate more equitable attitudes.

Respect for girls in gang roles.—Our measures of respect for girls in gang roles and female gang members’ sexual agency were derived from a longer eight-item measure of gang norms designed for this study. An exploratory factor analysis of this measure using varimax rotation yielded a two-factor solution, based on interpretation of the scree plot and eigenvalues. We retained the four items that loaded greater than .50 on at least one factor. We interpreted these factors as respect for girls in gang roles and female gang members’ sexual agency.

Participants rated the extent to which they agreed with two statements about the roles of female gang members (“Female gang members are respected in my gang,” and, “Female gang members are valuable members of my gang”) on a scale of 1 (Strongly disagree) to 5 (Strongly agree). Higher scores indicate more equitable beliefs. The average score across items was used in analyses.

Female gang members’ sexual agency.—Participants rated the extent to which they agreed with two statements about the roles of female gang members (“Female gang members are expected to have sex any time with male gang members,” and, “Female gang members are expected to have sex with more than one other gang member at a time”) on a scale of 1 (Strongly disagree) to 5 (Strongly agree). These items were reverse scored so that higher scores indicate more equitable attitudes. The average score across items was used in analyses.

Gender.—Each participant reported his/her gender. In addition, participants reported on their gang’s gender composition by responding to the question, “About how many of the members in your gang are female?” with response options from 0 (No females) to 3 (More than half female).

Analytic Plan

Descriptive statistics for all measures are presented in Table 1. We tested our hypotheses with multilevel models in SAS PROC MIXED with effects for gender beliefs at the individual level (representing individual beliefs) and gang level (representing gang norms). We used linear models for continuous outcomes (proportion of condomless sex, IPV), logistic models for dichotomous outcomes (STI diagnosis, HIV test, coercive sex, gang rape), and negative binomial models for count outcomes (number of 30-day sexual partners). Individual-level gender beliefs were centered around the gang-level mean. Gang-level gender beliefs were grand-mean centered. At the individual level, we controlled for age, gender, and (for STI diagnosis and HIV test) whether the participant had sex in the past 30 days. At the gang level, we controlled for the proportion of female respondents in each gang and the average reported proportion of female gang members in each gang.

We also included gender interactions for each measure of gender beliefs. At the individual level, this interaction was participant's gender*gender beliefs. At the gang level, we had the choice to use either proportion of female respondents or average reported proportion of female gang members for gender interactions. Because the latter is likely a more accurate representation of gang gender structure, our gang-level gender interaction was average reported proportion of female gang members*gender beliefs.

Results

A total of 461 gang members representing 71 different street gangs participated in the study. The present analyses focus on participants in gangs with at least four reporting members, and who provided complete data on the measures used in analyses ($N = 281$ participants from 32 gangs). Number of participants per gang ranged from 4–62 (mean = 25.0, SD = 21.2). Participants were 46% female, 73% Black/African American, 25% Hispanic/Latino, and 4% White (race/ethnicity categories were not mutually exclusive), with less than 1% reporting other race/ethnic categories.

Preliminary Analyses

To ensure that our measures of gender norms did not introduce collinearity problems, we explored associations between these variables. We performed three multilevel models, each with a predictor (equity in romantic relationships, respect for girls in gang roles, or female gang members' sexual agency) at the individual and gang levels. At the individual level, participants with more equitable beliefs about romantic relationships had more respect for girls in gang roles (estimate = 0.31, standard error [SE] = 0.08, $p < .001$) and more equitable beliefs about female gang members' sexual agency (estimate = 0.81, SE = 0.09, $p < .001$). Participants with more respect for girls in gang roles also had more equitable beliefs about female gang members' sexual agency (estimate = 0.14, SE = 0.04, $p < .01$). No significant correlations were found at the gang level. Although these measures were correlated, there was also unique variance associated with each; thus, we included all three measures in hypothesis tests.

Equity in Romantic Relationships

Results of models predicting sexual risk outcomes are presented in Table 2. Results predicting IPV, forced sex, and gang rape are presented in Table 3. Individuals with more equitable beliefs about romantic relationships experienced and perpetrated less IPV and were less likely to perpetrate forced sex. Gangs characterized by more equitable beliefs about romantic relationships reported a greater proportion of sexual occasions without condoms, among their members who had recent vaginal sex. This association was less strong for gangs with a higher proportion of female members. Gangs characterized by more equitable norms about romantic relationships had less IPV victimization. This association was weaker for gangs with a higher proportion of women. The direction of all significant main effects was consistent with hypotheses, except for the association between gangs' equitable norms about romantic relationships and higher rates of condomless sex.

Respect for Girls in Gang Roles

Among individuals who had sex in the past 30 days, individuals who believed that their gang had more respect for girls in gang roles were more likely to have group sex. Among individuals with recent romantic partners, individuals who believed that their gang had more respect for girls in gang roles experienced more IPV victimization, IPV perpetration, forced sex victimization, and gang rape victimization. The associations of respect for girls in gang roles with IPV victimization and forced sex victimization were weaker for female than male participants. Gangs characterized by more respect for girls in gang roles had higher rates of IPV victimization and perpetration. These associations were weaker in gangs with a higher proportion of female members. The direction of all significant main effects was consistent with hypotheses.

Female Gang Members' Sexual Agency

Although there was no main effect of individuals' beliefs about female gang members' sexual agency on number of sexual partners, a gender interaction indicated that female participants who believed girls in their gang had greater sexual agency had more sexual partners in the past 30 days. There were no gang-level effects of female gang members' sexual agency on any outcome.

Discussion

Gangs' norms and individual gang members' beliefs about gender corresponded to sexual health outcomes. Equitable norms and individual beliefs about the role of girls in gangs were associated with higher risks of negative sexual health outcomes. In contrast, equitable norms and beliefs about romantic relationships and female gang members' sexual agency were protective for several IPV and forced sex outcomes. Contrary to hypotheses, equitable norms about women as romantic partners were associated with higher rates of condomless sex in gangs with a higher proportion of male members. Equitable gender beliefs can lead to poor sexual health outcomes under some circumstances, but can also be protective; findings suggest future directions for research and intervention.

Gender Beliefs, Sexual Risk-taking, IPV, and Coercive Sex

Gangs with more equitable beliefs about girls' role as gang members had higher rates of IPV victimization and perpetration, consistent with hypotheses. These associations were stronger in gangs with a higher proportion of male members. Findings at the individual level were similar to gang-level results. This finding aligns with qualitative research suggesting that female gang members may have to earn respect from male peers by being tough and violent [20,26]. The need for female gang members to prove themselves through violence may be heightened in more male-dominated gangs. In majority-male gangs, girls are involved in more delinquent activities, including violent delinquent acts such as participating in gang fights [33]. IPV may be another form of violence that female gang members can use to earn respect from majority-male gang members.

Boys with more respect for girls in gang roles were also more likely to be victims of forced sex. These findings may indicate that, as girls become more aggressive in order to earn respect, male gang members are more likely to be victims of their female partners' physical and sexual aggression. Equitable beliefs about girls' role as gang members were also associated with increased risks of recent group sex and gang rape victimization. Thus, individuals with more respect than their peers for girls in gang roles experienced negative sexual health outcomes through gang activities. Holding more equitable beliefs about gender than one's fellow gang members may indicate a lack of traditionally masculine values, making these individuals vulnerable to victimization by other gang members.

In contrast to increased risks associated with equity in gang roles, equitable beliefs about women as romantic partners were protective against IPV victimization and perpetration and forced sex perpetration (at the individual level) and IPV victimization (at the gang level, especially among gangs with a high proportion of men). Believing that one's gang grants girls sexual agency was associated with lower levels of girls' IPV perpetration. These findings are consistent with research on IPV in non-gang populations, in which inequitable gender beliefs about women as romantic and sexual partners are associated with increased IPV perpetration [21,24,25].

Although equitable norms about women/girls as romantic and sexual partners were protective against IPV and forced sex, equitable norms about women/girls as romantic partners were associated with higher rates of condomless sex in gangs with a higher proportion of male members. This finding, which was contrary to our hypotheses, may be related to characteristics of participants' romantic and sexual relationships. Adolescents with equitable beliefs may be more likely to take an interdependent view of relationships, expecting love, trust, and commitment—all of which are associated with inconsistent condom use [34]. In gangs with a higher proportion of male members, romantic relationships may be more likely to form with partners outside of the gang than with other gang members. Gang members in relationships with non-gang members may be more likely to develop interdependent romantic relationships characterized by inconsistent condom use because they do not have to worry as much about competing loyalties with other gang members and potential conflict between romantic relationships and gang relationships [27].

Implications

Findings suggest intervention strategies for reducing sexual risk-taking and violence among adolescent gang members. Addressing beliefs about the roles of girls as romantic and sexual partners, rather than beliefs about girls as gang members, is most likely to improve IPV and coercive sex outcomes. However, other strategies may be more effective at improving condom use. Interventions may aim to foster norms that promote girls as equal romantic and sexual partners, in addition to facilitating information, motivation, and skills to improve sexual health practices. Both individual beliefs and group norms correspond to sexual health among adolescent gang members. Therefore, interventions for gang members may be effective when the target audience is the gang as a group or individual gang members.

Such an intervention could take several forms. Interventions for fraternity members and male athletes often target hostile masculinity, including beliefs that emphasize traditional male role norms and male dominance over women [35,36]. Because the results of this study indicate that both male and female gang members may harbor beliefs consistent with hostile masculinity, addressing these attitudes may be important across gender. Other intervention strategies may be gender-specific, given differences in behaviors and motivations for IPV [37]. Some sexual assault interventions aim to increase empathy for women [35], which would likely be more applicable to boys than girls. Girls may benefit from interventions to increase their sexual agency and sexual self-esteem [38].

Limitations and Future Directions

The results of the present research should be understood in light of its limitations. We were unable to collect data from all members of each gang. Therefore, our measure of norms may not be representative of the gang. In addition to limitations of the data collection strategy, our measures of gender beliefs and sexual health may have influenced our results. We cannot determine whether all participants held the same operational definitions of constructs such as gang rape and forced sex. Additional research with more precise definitions of these constructs may improve the clarity of results. Our measures of IPV were aggregates of items measuring emotional and physical violence with varying degrees of severity. We had limited ability to determine the extent to which violence represents intimate terrorism, violent resistance, or situational couple violence [14]. Future research with more precise measures of IPV is necessary to deconstruct this phenomenon among gang members.

Our measures did not allow us to address the timing of sexual events. Because some of our measures capture lifetime experiences of sexual risk-taking, which may have occurred prior to gang entry, it is difficult to say whether these experiences are consequences of gender attitudes or norms. Additionally, we did not specifically consider how events like group sex and forced sex may occur as gang initiation rituals [11]; understanding the timing of these events in relation to gang initiation and understanding their significance to gang traditions is important to inform future intervention strategies.

Due to this study's cross-sectional nature, we could not control for selection effects, in which individuals with similar gender beliefs gravitate to certain gangs. Additional

longitudinal research can help determine the causal associations between gender norms, gang memberships, and sexual health outcomes.

Conclusion

This research provides valuable insight into how gender beliefs within gangs are associated with adolescent gang members' sexual health outcomes. Respecting girls in gang roles was associated with more IPV victimization and perpetration, forced sex victimization, and gang rape victimization. Some of these associations were stronger for girls and for gangs with a higher proportion of female members. In contrast, equitable beliefs about women as romantic/sexual partners were protective, except for condomless sex. Additional research is needed to examine possible causal associations between gender equity and sexual health and determine how gang processes, such as initiation, may contribute to these associations. Targeting beliefs about equity in romantic relationships may be a useful strategy in preventing negative sexual health outcomes among adolescent gang members.

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Table 1.

Descriptive Statistics

	Proportion or mean (SD)			Gender difference	Reliability
	Total sample	Male participants	Female participants		
Any STI diagnosis	.14	.07	.23	***	
Any HIV test	.49	.47	.51		
Number of 30-day sexual partners	1.73 (2.90)	2.04 (2.47)	1.40 (3.28)		
Proportion of 30-day vaginal sex occasions w/o condoms ^a	.63 (0.43)	.59 (0.43)	.69 (0.43)		
Group sex past 30 days ^a	.16	.16	.17		
IPV victimization ^b	0.97 (1.23)	1.03 (1.24)	0.91 (1.23)		.80 ^c
IPV perpetration ^b	0.73 (1.03)	0.51 (0.95)	0.93 (1.06)	*	.82 ^c
Forced sex Victimization	.11	.06	.17	**	
Forced sex Perpetration	.05	.05	.05		
Gang rape Victimization	.08	.05	.11		
Gang rape Perpetration	.05	.04	.06		
Equity in romantic relationships	3.43 (0.60)	3.25 (0.60)	3.64 (0.54)	***	.82 ^c
Respect for women in gang roles	4.07 (0.82)	4.00 (0.79)	4.16 (0.84)		.79 ^d
Female gang members' sexual agency	3.38 (1.10)	3.21 (1.03)	3.58 (1.15)	**	.79 ^d

*
 $p < .05$ **
 $p < .01$ ***
 $p < .001$ ^aComputed for participants who had sex in the past 30 days^bComputed for participants with current romantic partners^cCronbach's alpha indicates internal consistency for scales with more than two items^dinter-item correlation indicates internal consistency for scales with two items

Table 2.

Mixed Model Results for Sexual Risk

	Any STI diagnosis	Any HIV test	Number of 30– day sexual partners	Proportion of 30- day vaginal sex occasions w/o condoms ^a	Group sex past 30 days ^a					
	Logistic mixed model	Logistic mixed model	Negative binomial	Linear mixed model	Logistic mixed model					
Number of observations	259	256	259	155	159					
Number of Gangs	31	31	31	30	31					
Individual-level effects	Estimate	SE	Estimate	SE	Estimate					
Equity in romantic relationships	–0.35	0.70	0.13	0.39	0.02	0.12	–0.08	0.08	–1.19	0.71
Respect for women in gang roles	0.16	0.50	0.28	0.27	–0.11	0.07	–0.10	0.05	1.46*	0.56
Female gang members’ sexual agency	–0.22	0.37	0.21	0.22	0.12	0.08	–0.05	0.04	–0.34	0.37
Equity in romantic relationships*Female	–0.24	0.92	0.93	0.65	–0.24	0.22	0.02	0.15	–0.08	1.12
Respect for women in gang roles*Female	0.36	0.62	–0.68	0.40	–0.04	0.10	0.16	0.09	–0.15	0.83
Female gang members’ sexual agency*Female	0.54	0.46	–0.30	0.32	0.28*	0.13	–0.01	0.07	–0.86	0.59
Age	0.43*	0.17	0.47***	0.11	0.06	0.04	0.07**	0.02	0.23	0.21
Female	1.89***	0.53	0.08	0.34	–0.68***	0.18	0.20*	0.08	1.39	0.74
Had sex in past 30 days	0.90	0.48	0.80*	0.31						
Gang-level effects										
Equity in romantic	0.37	6.43	5.65	4.00	–1.39	1.93	2.27**	0.86	–10.90	7.83

	Any STI diagnosis	Any HIV test	Number of 30-day sexual partners	Proportion of 30-day vaginal sex occasions w/o condoms ^a	Group sex past 30 days ^a
	Logistic mixed model	Logistic mixed model	Negative binomial	Linear mixed model	Logistic mixed model
Number of observations	259	256	259	155	159
Number of Gangs	31	31	31	30	31
relationships	Estimate	SE	Estimate	SE	Estimate
Respect for women in gang roles	2.40	4.09	1.63	2.67	2.21
Female gang members' sexual agency	3.45	3.22	-2.02	2.15	0.66
Equity in romantic relationships*	1.49	4.91	-3.32	2.99	0.93
Proportion of female members				1.54	-1.79**
Respect for women in gang roles	-2.16	2.94	-0.84	1.96	-1.41
*Proportion of female members				0.89	-0.49
Female gang members' sexual agency	-2.91	2.36	1.07	1.58	-0.47
*Proportion of female members				0.76	0.59
Proportion of females reporting	-1.05	1.07	0.10	0.77	0.06
Proportion of female members	0.08	1.09	-0.19	0.66	-0.85**

*
 $p < .05$ **
 $p < .01$ ***
 $p < .001$ ^aComputed for participants who had sex in the past 30 days

Table 3.

Mixed Model Results for IPV, Forced Sex, and Gang Rape

	IPV victimization ^a	IPV perpetration ^a	Forced sex victimization	Forced sex perpetration	Gang rape victimization	Gang rape perpetration						
Number of observations	146	148	271	271	272	270						
<hr/>												
Number of gangs	28	29	32	32	32	32						
<hr/>												
	Estimate	SE	Estimate	SE	Estimate	SE						
<hr/>												
Individual-level effects												
Equity in romantic relationships	-0.49 [*]	0.25	-0.43 [*]	0.20	-0.20	0.78	-4.16	1.71	-0.60	0.88	-1.45	1.23
Respect for women in gang roles	0.72 ^{***}	0.18	0.44 ^{**}	0.15	2.41 [*]	0.98	1.02	0.77	1.47 [*]	0.73	1.00	0.75
Female gang members' sexual agency	0.02	0.14	-0.25 [*]	0.11	-0.30	0.38	-0.05	0.67	-0.76	0.47	-0.46	0.59
Equity in romantic relationships*Female	-0.27	0.39	0.05	0.32	0.88	0.98	3.82	1.97	0.08	1.11	0.62	1.50
Respect for women in gang roles*Female	-0.55 [*]	0.27	-0.40	0.22	-2.40 [*]	1.04	-0.92	0.98	-1.38	0.84	-0.42	0.92
Female gang members' sexual agency*Female	-0.14	0.19	0.09	0.16	-0.28	0.47	0.28	0.81	0.70	0.58	0.84	0.74
Age	0.09	0.06	0.10	0.05	0.11	0.16	0.55	0.32	-0.16	0.18	0.17	0.25
Female	0.33	0.22	0.66 ^{***}	0.18	2.57 ^{**}	0.90	3.48 [*]	1.50	2.18 ^{**}	0.79	2.56	1.05
Gang-level effects												
Equity in romantic relationships	-6.63 [*]	2.79	-3.28	2.17	-2.39	7.72	-17.74 [*]	12.3 ₈	-3.43	8.42	-5.38	11.3 ₇
Respect for women in gang roles	5.10 [*]	2.33	3.85 [*]	1.81	6.34	4.10	-0.95	8.53	2.93	6.01	-2.00	9.28
Female gang members' sexual agency	2.28	1.82	0.34	1.01	0.89	2.52	1.67	4.22	1.55	3.15	-2.38	4.55
Equity in romantic	4.79 [*]	2.02	2.28	1.57	2.06	5.96	11.15	9.65	2.92	6.32	3.62	8.13

	IPV victimization ^a	IPV perpetration ^a	Forced sex victimization	Forced sex perpetration	Gang rape victimization	Gang rape perpetration
Number of observations	146	148	271	271	272	270
Number of gangs	28	29	32	32	32	32
	Estimate	SE	Estimate	SE	Estimate	SE
relationships [*] Proportion of female members						
Respect for women in gang roles	-3.66 [*]	1.63	-2.55 ^{***}	1.26	-4.92	2.99
*Proportion of female members						
Female gang members' sexual agency	-1.85	1.27	-0.64	0.65	-1.01	1.89
*Proportion of female members						
Proportion of females reporting	-0.63	0.48	0.15	0.39	-1.02	1.08
Proportion of female members	-0.76	0.43	-0.37	0.35	-1.24	1.07

*
 $p < .05$ **
 $p < .01$ ***
 $p < .001$ ^aComputed for participants with current romantic partners