Intimate Partner Violence among Adolescents in Cape Town, South Africa

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Abstract

GOAL—To describe potentially preventable factors in intimate partner violence (IPV) perpetration and victimization among South African 8th grade students.

METHOD—Data were collected during a pilot evaluation of a classroom 8th grade curriculum on gender-based violence prevention in 9 public schools in Cape Town through self-completed interviews with 549 8th grade students, 238 boys and 311 girls. Structural equation models (SEM) predicting IPV were constructed with variables a priori hypothesized to be associated.

RESULTS—The majority of students (78.5%) had had a partner in the past three months, and they reported high rates of IPV during that period (e.g., over 10% of boys reported forcing a partner to have sex, and 39% of girls reported physical IPV victimization). A trimmed version of the hypothesized SEM (CFI =.966; RMSEA=.051) indicated that disagreement with the ideology of male superiority and violence predicted lower risk of IPV (p<.001), whereas the frequency of using negative conflict resolution styles (e.g., walking off angrily, sending angry text messages, or refusing to talk to them) predicted high IPV risk (p<.001) and mediated the impact of heavy alcohol drinking on IPV (Sobel test, z=3.16; p<.001). The model fit both girls and boys, but heavy drinking influenced negative styles of resolving conflict more strongly among girls than boys.

CONCLUSIONS—Findings suggest that interventions to reduce IPV among South African adolescents should challenge attitudes supportive of male superiority and violence; encourage use of positive conflict resolution styles; and discourage heavy alcohol use among both boys and girls.

Keywords

gender inequity; alcohol use; conflict resolution; intimate partner violence; adolescents

INTRODUCTION

Background & Theoretical IPV Model

In this paper we investigate the contribution of potentially preventable factors to IPV perpetration and victimization among 8th grade students in Cape Town, South Africa. Intimate partner violence (IPV) is widespread and constitutes a major public health concern in South Africa (e.g., Norman et al. 2010). An epidemiological study of South African female homicide victims revealed that 50% were attributable to IPV, yielding the highest rate of intimate femicide in the world, 8.8 per 100,000 women (Abrahams et al. 2009). Rates of rape are more difficult to quantify as only 1 in 25 women who have been raped have reported it to police (Machisa et al. 2011). In addition to high rates of morbidity and mortality directly caused by injuries, IPV is associated with increased risk of contracting sexually transmitted infections, including HIV/AIDS (Jewkes et al. 2010), and victims are at increased risk for a number of mental health disorders (Norman et al. 2010). It also contributes to poverty, the maintenance of gender inequality, and to a reduced quality of life (Jewkes 2002).

Much of the research on IPV has been conducted in adult populations. However, South African national surveys of youth risk behavior found that intimate partner violence starts early in life--12.1% of 8th grade girls reported having been hit, smacked (slapped) or physically hurt by their boyfriends during the past six months, and 16.1% of 8th grade boys reported having hit, smacked or physically hurt their girlfriends (Reddy et al. 2010). Extensive research conducted by Flisher and colleagues documented the presence of a wide range of risk-taking behavior among high-school students in Cape Town, including IPV (Flisher et al. 2007; Wubs et al. 2009).

Greater recognition of the harm associated with IPV has been accompanied by efforts to identify risk factors that underlie its high prevalence in South Africa. In developing her theoretical model, "Causes of Intimate Partner Violence," Jewkes (2002) undertook an extensive review of the IPV literature, including an analysis of data from her cross-sectional study of domestic violence among women ages 18 to 49 undertaken in three provinces of South Africa (Jewkes et al. 2002). The latter study had tested hypotheses about factors associated with IPV that were based on Heise's (1998) integrated ecological view of abuse as resulting from interactions that take place between three levels of the social environment: personal factors, interpersonal factors, and community level factors. Jewkes (2002) identified two community level factors, gender inequality (i.e., male superiority) and social norms accepting of violence in conflict, as key determinants of intimate partner violence. Both are pervasive in South Africa. Although the rights of women are recognized in its

Constitution of 1996, South Africa is traditionally a patriarchal society in which women are subservient to men, and despite the Constitutional rights of equality, the notion that men should dominate women and women should defer to them is still strong (Jewkes and Morrell, 2010).

The first democratic elections in South Africa in 1994 marked the end of a history spanning 350 years of racial oppression (including the apartheid era). This historical period was one of immense brutality, marked by extraordinary State-directed structural, as well as physical, violence (Beinart 1992), and violence continues to be deployed frequently in a wide range of situations (Gilbert 1996; Jewkes and Abrahams 2002; Seedat et al. 2009). The combination of a patriarchal culture with a legacy of violence gives rise to a society in which boys may grow up with a sense that they are entitled and expected to control girls and that it is legitimate to use force to do so. The strength of these risk factors is often exacerbated by poverty, whereby men lacking economic power may seek to compensate by exerting power over women, and women may lack the resources to leave a violent situation (Jewkes 2002). Cultural or social norms of male superiority and the acceptability of violence are potentially preventable community-level risk factors influencing IPV among 8th graders, subject to challenge by school-based intervention. Although men in South Africa report being victims of IPV (Gass et al. 2011), the direction of these community-level factors has led to a focus on males as perpetrators of IPV and females as victims, and that focus is continued in the present study.

At the interpersonal level, the model incorporates the fact that relationship conflict is often a precursor to IPV (Jewkes et al. 2002; Straus 1980), triggering anger and aggression. A substantial body of research indicates that universal school-based programs to improve social skills (i.e., communication, problem solving, and conflict resolution) are effective in preventing violent and aggressive behavior among adolescents (for reviews see Blake and Hamrin 2007; Wilson and Lipsey 2007). The use of such programs has been recommended by the Centers for Disease Prevention and Control's Task Force on Community Preventive Services (Hahn et al. 2007), and the review of preventive interventions conducted by the World Health Organization (WHO, 2010).

At the personal level alcohol abuse by both men and women has been found to be associated with IPV both in South African women (Jewkes et al. 2002) and more generally (for a recent review, see (Foran and O'Leary 2008). It is hypothesized that heavier drinking contributes to IPV by increasing relationship conflict and by increasing the likelihood that relationship conflict will lead to violence through reducing cognitive reasoning skills and inhibitions. Heavy drinking by one partner or the other may be the source of relationship conflict (e.g., Leadley et al. 2000), and may loosen social constraints, leading to violent behavior, including sexual aggression (Abbey 2011). Early initiation of alcohol drinking is a problem in South Africa, and binge drinking is increasing among females (Ramsoomar and Morojele 2012).

Thus, we hypothesized that IPV would be predicted by community level attitudes supportive of male superiority and the use of violence to control women and interpersonal level measures of styles in resolving interpersonal conflict (i.e. negative conflict resolution

styles), and that negative conflict resolution styles would mediate the impact of heavier alcohol consumption on IPV.

METHOD

Participants

Data for this study came from baseline surveys of 8th grade students attending mandatory Life Orientation (LO) classes in Cape Town, South Africa. These surveys were conducted as part of a project to develop a curriculum to prevent IPV. Schools in the project were selected from among 39 schools, which had been previously studied by Dr. Flisher and colleagues (Flisher et al. 1993). Data from these studies were used to select mid-size public high schools that were co-educational and represented diversity in race, language, and socioeconomic status. Mid-size schools were selected so that at least two LO classes in each would be available to participate, and the study would have sufficient power to perform key statistical analyses. Schools were purposively chosen to include speakers of English, isiXhosa, and Afrikaans. Racial labels and classifications are a product of South Africa's political history. The Apartheid government institutionalized racism by classifying all South Africans by "race" into groups of "White", "Coloured", "Indian" and "African" or "Black", according to the Population Registration Act of 1950. The Act was repealed in 1991; however, these designations continue to influence the way South Africans identify themselves and their socio-economic and health status. In Cape Town, isiXhosa is the first language of most people who identify themselves as "Black" while people who identify themselves as "White" or "Coloured" speak English or Afrikaans.

Recruitment and Informed Consent

Approval for this study was obtained from IRB boards at the University of Cape Town, South Africa, and at the Pacific Institute of Research and Evaluation in the United States. Informed consent to administer the IPV intervention was obtained at the school level, and participating schools adopted the IPV prevention curriculum as part of their ongoing LO coursework in two 8th grade classes at each school. A trained research team member visited all participating 8th grade Life Orientation classes to explain the study and recruit students. Consent forms in the three languages spoken in the region, Xhosa, Afrikaans, and English, were sent to all caregivers of learners in participating classes. Confidence that the overwhelming majority of parents were able to read the consent forms in at least one of these languages stems from the fact that the adult literacy rate in 2001 was 89% (UNICEF 2003), and literacy rates in Cape Town, an urban area, are higher than in rural areas. Active informed consent (students could participate if parents said yes) to survey students regarding IPV and its risk factors was obtained from parents during the first phase of the study, and passive informed consent (students could agree to participate if parents didn't say no) was obtained to administer the survey to students before and after receiving the IPV prevention curriculum in the second phase. Those students whose caregivers consented were given information about the study surveys and asked to assent if they wanted to participate. Students were told they could skip any questions that they did not wish to answer. Researchers were available to talk to students, and these researchers could refer any student struggling with IPV or distressing mental health concerns to a counseling service; however,

no student reported being distressed by the survey. Participants received ZAR20 (approximately USD 2.67) and a small snack as a token of appreciation for completing the survey. Surveys were completed by 549 students, 238 boys and 311 girls, for a response rate of 89.4%. Nine parents withheld consent for their children to participate in the survey; 12 students withheld assent; 40 surveys were lost when there was a problem with the APDAs (see description below), and 4 surveys were not complete.

Survey Administration

Surveys providing baseline data for this analysis were conducted during two phases of the curriculum development project; both were self-completed. In the first phase, a baseline paper-and-pencil survey was read aloud to students at three schools prior to participating in the development of the curriculum, and in the second phase a baseline survey was administered via an audio-enhanced personal digital assistant (APDA) to students at six schools before they received the curriculum. The APDA displayed survey questions on a hand-held screen while students listened through headsets to the questions being read to them. Students selected the language(s) with which they felt most comfortable (English, Xhosa, or Afrikaans) and moved between languages as desired. There were no significant differences in levels of reporting on key study variables between the two methods of data collection, and previous research in student populations similar to those surveyed in this study found that test-retest reliability on a questionnaire assessing sexual risk behavior was similar for both electronic and paper versions (Seebregts et al. 2009). Surveys were completed anonymously.

Measures

Survey measures were selected to assess both girls' victimization and boys' perpetration of IPV during the three months prior to the interview and preventable factors associated with IPV that were identified in the theoretical model. The IPV outcome variables were taken from a modified version of the WHO violence against women instrument (WHO 2000) and measured physical, sexual and emotional IPV. The adaptation included changing the questions to ask boys about perpetration (the original asked about victimization); asking about the last 3 months (instead of ever or last year), and assessing sexual violence with a single item, 'forced' sex by/of a partner or non-partner, instead of the three WHO questions (one on 'forced' sex, one on sex that was not wanted but where the woman feared consequences, and one on being forced into degrading or humiliating sexual acts). These questions were shortened and simplified out of sensitivity to the age group. IPV outcome items were asked of all students, and a response option was provided for those who had not had a partner during the three months prior to the interview. Students also had the option of skipping variables they did not want to answer. We did not ask a direct question about partners in the past three months. Rather, it was assumed that students had had a partner during the past three months if they responded to one of the IPV items (i.e., they did not skip all the IPV questions or choose an option that indicated not having had a partner in the past three months). Independent variables were drawn from previous IPV research with adolescents (Flisher et al. 1993; Foshee et al. 1996; Jewkes et al. 2006; Karnell et al. 2006) and tested in student focus groups to ensure that survey items were understood and relevant to our target population. The measures selected were then translated into Afrikaans and

Xhosa, and back translated. Measures are summarized in Table 1. Cronbach's alpha for these measures are based on data from the present study; values ranged from .566 to .884. In addition, we assessed the following socio-demographic characteristics: age; race; sex; and socioeconomic status on a scale derived from measures of having a brick house and electricity, tap water, an inside toilet, and a car at home (scored 1 for each, alpha = .601).

Analysis

The distributions of demographic characteristics (race and socioeconomic class) were described in sex-stratified analyses by victimization or perpetration of IPV type for students who had had partners during the past three months and for those who did not. Distributions of preventable factors hypothesized to contribute to IPV (attitudes towards male superiority and violence; alcohol use; and negative conflict resolution styles) were similarly determined. All scales were dichotomized at their mid-points for this analysis, and Chi-squared tests were used to statistically test for differences.

In order to examine factors associated with IPV perpetration and victimization, multiple logistic regression models were built with candidate variables (i.e., those presented in bivariate analyses in Tables 3 and 4. These were conducted using SPSS Statistics 20, with step-wise backwards elimination from the model at p=0.1 and retention of variables at p<0.05. These and subsequent analyses were restricted to students who had had partners in the past three months.

Structural Equation Modeling (SEM) was conducted using SPSS AMOS, Version 20.0, to assess fitness of the proposed model. Prior to testing the proposed model, we followed Anderson and Gerbing's (1988) two-step procedure for testing structural equation models in which the first step is to perform a confirmatory factor analysis to assess the relationships among our latent constructs: attitudes towards male superiority and violence; alcohol use; and negative conflict resolution styles. This first step is typically referred to as the measurement model. Here, the latent variables are allowed to freely correlate. The current dataset contains multiple missing cases, making it particularly important to ensure the correctness of the analysis. To handle missing cases, AMOS utilizes a missing data method that enables all the observations in the data set to be used in estimating the parameters of the model. Unlike other methods, this method does not assign values for those that are missing, but uses all the data that are available to estimate the model using the full information maximum likelihood approach to the estimation of simultaneous equations.

To assess model fit of the observed data, we utilized various indices: 1), comparative fit index (CFI); 2) Tucker-Lewis Index (TLI) (Tucker and Lewis 1973); and 3) root mean square error of approximation (RMSEA) (Steiger 1990). Published rules for significance levels of fit indices were followed (Brown 2006). Specifically, minimum TLIs and CFIs of .90 were required for model acceptance, and values of .95 or greater were accepted as an indication of good model fit. Additionally, RMSEAs of less than .06 were accepted as indicators of a good fitting model. The model chi-square test was examined, but it was not used in assessing model fit because it has unsatisfactory properties, such as inflation with large sample sizes (Brown 2006). The significance of the mediated model was tested using the Sobel test (Sobel 1982), and a multiple group analysis was conducted to investigate the

moderating effects of gender on the model. Although a formal power analysis was not conducted, simulations indicate that a ratio of observed to latent variables of 2 requires a sample size of 400, and a ratio of 3 requires 200 (Marsh et al. 1998); the ratio in our study was 2.75, and our the number of partnered students in our sample was 431, well within the size required to detect significant effects.

RESULTS

Demographic Characteristics

Overall, 41.8% of the students were Black, 45.8% were Coloured, 11.7% were White, and 0.7% were Asian or Indian. Most of the students were from lower middle or low income homes. Only 49.7% had access to a car, 60.8% lived in a brick house, and 71.2% had an inside toilet, but most had electricity in their homes (97.5%) and 90.7% had tap or running water. Only 24.4% of the girls and 17.6% of the boys had not had a partner during the past three months (Table 2). Among these students emotional IPV was reported by approximately one-third of both girls and boys, and sexual IPV was reported by approximately 10%, whereas physical IPV victimization was reported by almost twice as many girls as physical IPV perpetration was reported by boys (39.1% compared with 20.3%, p <.001).

There were only two statistically significant sex differences in the distribution of factors hypothesized to influence IPV (data not tabled); girls were significantly less likely than boys to agree with dating abuse (9.4% compared with 15.2%, p=.039) and rape myth (27.3% compared with 40.8%, p=.001). Most students (88.2%) tended to disagree with statements that it was okay for a boy to hit a girlfriend under certain circumstances (dating abuse), but fewer disagreed with other attitudes that were supportive of male superiority and violence-- Attitudes towards Community Violence (57.7%), Male Sexual Entitlement (68.9%), Gender Equitable Men (54.8%), and rape myths (66.9%). Heavy drinking was reported by 16.5% of the students. More frequent use of negative styles to resolve conflict resolution with partners and with people in general was reported by 26.3% and 16.6% of students, respectively, whereas, more frequent use of positive styles to resolve conflict with people in general was reported by 42%.

Sex-specific associations between preventable factors hypothesized to influence IPV and three types of IPV are summarized in Tables 3 (for girls) and 4 (for boys). Agreement with ideologies supportive of male ideology and violence tended to be associated with higher IPV rates; however, these trends only reached statistical significance in the case of boys who reported sexual IPV. Heavy drinking was associated with higher rates of IPV among both girls and boys. More frequent use of both positive and negative styles of resolving conflict tended to be associated with higher rates of IPV, but the relations between negative styles and IPV were more consistently significant.

Heavy drinking was associated with using negative styles to resolve conflict (data not tabled) among both girls and boys (15.2% among girls who were not heavy drinkers compared with 36.2% among those who were, p=.001) and (10.3% among not heavy compared with 32.6% among heavy drinking boys, p<.001). Heavy drinking was also

associated with using positive styles to resolve conflicts among girls only (43.6% among not heavy compared with 61.7% among heavy drinkers, p=.022).

Multiple logistic regression models were built for factors associated with the three IPV measures assessed (Table 5). Disagreeing with dating abuse predicted lower rates of perpetrating sexual IPV among boys, whereas disagreeing with male sexual entitlement predicted lower risk of physical IPV among girls, and disagreement with rape myths predicted lower rates of perpetrating physical IPV among boys. Negative styles of resolving conflict with people in general predicted higher rates of sexual and emotional IPV by boys and higher rates of emotional IPV among both girls and boys. Negative styles of resolving conflict with partners predicted higher risk of all three types of IPV among girls and emotional and physical IPV among boys. Heavier alcohol use was associated with higher risk of emotional IPV among girls and higher risk of physical IPV among both boys and girls.

The hypothesized measurement model for the SEM analysis (not shown) was a poor fit of the data: χ^2 (166.11, degrees of freedom=41, (N = 431)), p < .001); CFI = .896; TLI = .833; RMSEA = .084. One goal of the current study was to develop a useful and parsimonious model. Thus, we systematically deleted non-significant paths until all paths were significant based on the methods described by Brown (2006). Weakest paths among the indicator variables were deleted. Positive styles of resolving general conflict was deleted because it was too highly correlated with negative styles of resolving conflict, and acceptance of violence in the community and rape myths were deleted because their correlations with the latent variable, male superiority and violence, were too weak. Deleting non-significant paths resulted in slightly improved fit statistics on most indices: χ^2 (40.44, degrees of freedom=17, (N = 431)), p < .001; CFI = .970; TLI = .936; RMSEA = .056. It is important to note that none of the modification indices suggested by the LaGrange Multiplier test made theoretical sense and inspection of residuals indicated no localized areas of strain; therefore, no further changes were made to the model (Zhu et al. 2006). Once the measurement model was determined to have adequate fit, the hypothesized structural relations among our latent construct variables were examined. The final trimmed structural model is presented in Figure 1, with the significance of individual paths and final factor loadings indicated; χ^2 (84.49, degrees of freedom=39, (N = 431)), p < .001; CFI = .966; TLI = .943; RMSEA = . 051.

The structural equation model confirmed key hypotheses based on Jewkes' theoretical model of IPV causation. Significant direct paths to IPV were observed from male superiority and violence (standardized structural coefficient = −0.21; p = .002) and negative styles of resolving conflict (standardized structural coefficient = .70; p = .001). The path from alcohol use to negative resolution of conflict to IPV was also significant (standardized structural coefficient = 0.64; p=.001). The total standardized effect from alcohol use to negative style of resolving conflict to IPV was .449, and the Sobel test for this mediating effect was significant (z = 3.16, p =.001).

The multiple group analysis indicated that the model was a good fit for both girls and boys. Unstandardized path coefficients for girls and boys, together with significance tests of their

comparisons are summarized in Table 6. The pattern and significance of regression coefficients was similar for both sexes—disagreement with attitudes supportive of male superiority and violence had a significantly protective effect against IPV, whereas, more frequent use of negative conflict resolution styles increased the risk of IPV. Alcohol use did not have a significant direct effect on IPV, but heavier alcohol use was directly related to negative resolution of conflict (p<.001 for both girls and boys). Comparison of sex-specific path coefficients indicated that heavier alcohol use had a stronger effect on negative conflict resolution styles among girls than among boys (z-score = 1.79; *p*<.10).

DISCUSSION

The current study documented a high prevalence of IPV among 8th grade students in Cape Town, South Africa. Although interest in IPV among adolescents has grown during the past decade (Capaldi et al. 2012), methodological differences in referent periods and number of IPV items surveyed make it difficult to compare rates of IPV across studies because estimates tend to increase as the referent period lengthens and as the number of IPV items included in a survey increases. For example, rates of IPV are higher among 8th graders in Cape Town than North Carolina. The prevalence of physical IPV was 39% compared to 34% for girls' victimization, and 20% compared to 13% for boys' perpetration (Foshee et al. 1996). Similarly, 7.5% of the Cape Town girls were forced by their partners to have sex compared with 6.2% in North Carolina, and 11.0% of the Cape Town boys forced their partners to have sex compared to 2.1%. However, these comparisons understate the severity of IPV in Cape Town relative to North Carolina. Our Cape Town data are for the past three months only, whereas the North Carolina rates are for the lifetime; and physical IPV was assessed using 16 items in North Carolina (Foshee, V., personal communication, May 2008) vs. only five items in the current study. National surveys of youth risk behavior in both South Africa (Reddy et al. 2010) and the United States (Centers for Disease Control and Prevention 2006) include a single item on physical IPV victimization; rates for girls were 13.8% in the past six months in South Africa compared to 8.8% in the past 12 months in the United States, both substantially lower than was obtained in studies employing multiple IPV items.

The high rates of IPV reported by Cape Town adolescents in this study provided an opportunity to model the relationships of preventable risk factors to IPV victimization among girls and IPV perpetration among boys in this vulnerable population. Significant findings were obtained for a model in which attitudes disagreeing with the ideologies of male superiority and violence protected against IPV, and using negative styles to resolve conflict when disagreeing with partners or arguing with someone during the past three months increased IPV risk.

Bivariate analyses indicated a strong relationship between heavier alcohol use and higher risk of IPV; however, the structural equation model indicated that the contribution of heavier alcohol use to higher IPV risk was mediated through its effect on the use of negative styles to resolve conflict. Heavy drinking with a girlfriend may increase the expectation that she will welcome sex and willingness to use force if she does not agree (Abbey 2011), and negative styles of resolving conflict may exacerbate these tendencies. Heavy drinking also

decreases sensitivity to social cues (Clements and Schumacher 2010), which together with negative styles of resolving conflict could increase IPV risk.

It is noteworthy that girls were as likely to report heavy drinking as boys in this 8th grade population. Older adolescent boys drink more on average than girls, but it is not uncommon for girls' drinking to exceed that of boys' among younger adolescents (Flewelling et al. 2004). This may be related to girls having older boyfriends or other partners who encourage them to drink. Older boys and men may seek out young girls because they wish to dominate them and use alcohol and violence to accomplish that purpose. Learning to recognize and avoid or end such relationships is critical in reducing IPV among young adolescent girls.

It is important to note that our findings indicate that the model is valid for both boys and girls. This suggests that interventions to prevent IPV by challenging ideologies of male superiority and violence, encouraging the use of positive styles to resolve conflicts, and discouraging heavy alcohol consumption are appropriate for both boys and girls. Although it is encouraging to observe that the majority of students, both boys and girls, tended to disagree with or feel neutral about ideologies supporting male superiority and violence, the large numbers of both boys and girls reporting agreement with attitudes assessed by Gender Equitable Men and Male Sexual Entitlement scales, indicate the need for interventions to challenge these attitudes. It is not surprising that perpetration of IPV is lower among boys who disagree with ideologies of male superiority and violence, but the fact that IPV victimization is lower among girls who disagree with these ideologies is reassuring to those who might worry that such disagreement might expose girls to higher IPV risk by provoking conflict with boys who endorse them. The potential for such conflict can be decreased by including both girls and boys in efforts to challenge these ideologies in a safe environment, and accompanying them with lessons on positive ways of resolving conflict when it arises. Although, research is needed to determine whether such interventions are more effective when delivered to mixed gender or separate gender groups.

The present study has several limitations. The current model is relatively simple, examining three key IPV risk factors. Additional preventable factors that may contribute to IPV in this population need to be identified and incorporated in the model, and the model needs to be tested in other populations to investigate its generalizability. Longitudinal studies are needed to determine whether reductions in heavy drinking patterns, in the use of negative styles of resolving conflict, and in agreement with ideologies of male superiority and violence are associated with reductions in IPV rates. Meanwhile, this represents a useful first step in the task of identifying preventable factors that can be targeted by interventions to combat IPV among adolescents in South Africa. Such efforts are urgently needed to reduce the psychological and physical damage caused by IPV in this population, and to decrease exposure to HIV infections associated with IPV.

Acknowledgments

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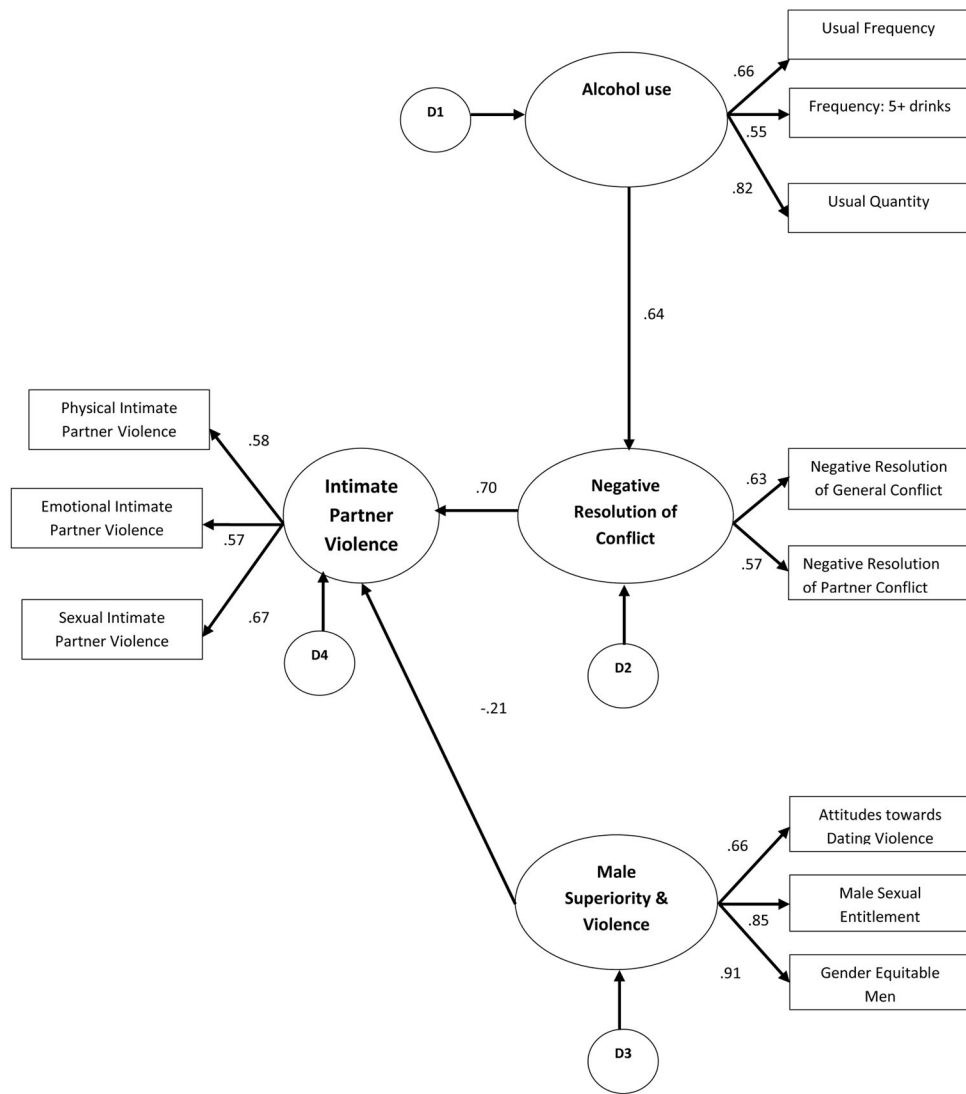
Figure 1.
Final Structural Model for Preventable Factors Influencing Intimate Partner Violence: Male Superiority and Violence, Negative Resolution of Conflict Styles, and Heavier Alcohol Use (mediated by Negative Resolution of Conflict Styles). Standardized path coefficients. N=431.

Table 1

Latent and manifest variables and their definitions

Latent	Indicator	Definition
Intimate Partner Violence (IPV)[*]	Physical IPV	5 items in the past three months—slapped or threw something; pushed or shoved; hit with a fist or something else that could hurt; kicked, dragged, beaten, choked, or burned; threatened to use or actually used a gun, knife, or other weapon.
	Emotional IPV	4 items in the past three months—insult/make her feel bad; make fun of or humiliate in front of others; scare or intimidate; threaten to hurt.
	Sexual IPV	Forced (by) partner to have sex in the past three months.
Male Superiority & Violence (strength of disagreement with ideologies)	Acceptance of Dating Abuse	4 items scored on a 5-point scale from strongly agree to strongly disagree—it is okay for a boy to hit a girlfriend if she did something to make him angry, if he needs to control her, if she hits him first, or if she refuses to have sex with him (adapted from Foshee et al., 1996). Alpha = .773.
	Male Sexual Entitlement	5 items scored on a 5-point scale from strongly agree to strongly disagree— girls should wait until marriage for sex, but boys do NOT have to wait; when a boy is sexually excited, a girl should not refuse to have sex with him; sometimes a boy needs to put a little pressure on a girl to get the sex he wants; if a girl dresses sexy, she is asking to be raped (adapted from Thompson et al., 1992). Alpha = .656.
	Gender Equitable Men	8 items scored on a 5-point scale from strongly agree to strongly disagree— you don't talk about sex, you just do it; a man is always ready for sex; a man should have the last word in his house; women sometimes need to be beaten; women are the only ones responsible for avoiding pregnancy and child care (adapted from Pulerwitz et al., 2008). Alpha = .772.
	Acceptance of Violence in the Community	5 items scored on a 3-point scale from always acceptable to never acceptable—for a parent to hit a child; a man to hit his wife or girlfriend; a girl to hit a younger sister or a younger girl; a boy to hit a younger brother or a younger boy; or for a woman's family to beat up someone who has been violent to her (adapted from Jewkes et al., 2002). Alpha = .636.
	Rape Myths	4 items about victim blame scored on a 5-point scale from strongly agree to strongly disagree (Burt, 1980). Alpha =.655.
Frequency of using Negative and Positive Styles to Resolve Conflict	Negative Styles: Partner Conflict	3 items scored on a 4-point scale from not at all to very often—frequency of arguing, keeping silent, ending up shouting when disagreeing with partner in the past 3 months.[**] Alpha = .626.
	Negative Styles: General Conflict	6 items scored on a 4-point scale from never to most of the time—frequency of using disrespectful communication styles (e.g., sending angry messages, refusing to talk, act like nothing was wrong) when arguing with someone during the past three months. Alpha = .718.
	Positive Styles: General Conflict	7 items measuring frequency of employing respectful communication skills (e.g., listening, telling person how you felt, seeking a solution that suited both) when arguing with someone during the past 3 months, scored on a 4- point scale from never to most of the time. Alpha = .884.
Alcohol Use	Usual Frequency	0=never; 1=less than once a week; 2=once a week; 3=2 or 3 times a week; 4=every day of the week.
	Usual Quantity	0=never drank; 1=1 or 2 drinks; 2=3 or 4; 3=5 or 6; 4= 7 or 8; 5=9 or more drinks.
	Frequency of 5+ drinks	0=never; 1=less than monthly; 2=monthly; 3=weekly; 4=daily or almost daily.
	Heavier Drinking	AUDIT-C: Sum of usual frequency + usual quantity (where 0–2 drinks=0, 3–4=1, 5–6=2; 7–8=3; 9+=4) + frequency of 5+ drinks. AUDIT-C for heavier drinkers is >=3 for women and >=4 for men http://www.cqaimh.org/pdf/tool_auditc.pdf.

[*] Frequencies of three types of partner IPV were assessed for the past three months (responses were 0, 1, 2, 3+); boys were asked about the perpetration of IPV, and girls were asked about IPV victimization (WHO, 2000).

[**] Options were provided for students to indicate that they had not had a partner during the past 3 months, or that they had had a partner, but had not disagreed with them.

Table 2

Characteristics of South African Adolescents, According to Girls' Intimate Partner Violence (IPV) Victimization and Boys' IPV Perpetration (% yes in past 3 months)

	N (%)	Emotional IPV	Physical IPV	Sexual IPV	No Partner in past 3 months
GIRLS:		N=218 (17 refusals)	N=225 (10 refusals)	N=199 (36 refusals)	N=76
Total	311 (100%)	33.9%	39.1%	7.5%	24.4%
Race					
Black	124 (39.9%)	31.0%	38.5%	3.7% *	19.4%
Coloured	146 (46.9%)	41.3%	45.0%	12.1%	23.3%
White	38 (12.2%)	9.5%	13.6%	0%	42.1%
Socioeconomic class					
Lower	125 (40.2%)	32.6%	41.1%	6.3%	17.6%
Higher	186 (59.8%)	34.4%	37.5%	8.6%	29.0%
BOYS:		N=186 (10 refusals)	N=192 (4 refusals)	N=173 (23 refusals)	N=42
Total	238 (100%)	31.2%	20.3%	11.0%	17.6%
Race					
Black	102 (42.9%)	33.0%	25.0%	16.7%	9.8%
Coloured	104 (43.7%)	28.6%	15.0%	7.4%	21.2%
White	25 (10.5%)	33.3%	12.5%	0%	32.0%
Socioeconomic class					
Lower	79 (33.2%)	33.8%	23.2%	13.8%	12.9%
Higher	153 (63.9%)	29.2%	17.9%	8.3%	20.3%

*
Probability .05.

NIH-PA Author Manuscript NIH-PA Author Manuscript NIH-PA Author Manuscript

Table 3

Preventable Factors Associated with Girls' Victimization by Intimate Partner Violence (IPV). (% yes in past 3 months)

	N (%)	Emotional IPV N=218 (17 refusals)	Physical IPV N=225 (10 refusals)	Sexual IPV N=199 (36 refusals)	No Partner in past 3 months (N=76)
Total	311 (100%)	33.9%	39.1%	7.5%	24.4%
Acceptance of Dating Abuse					
Agree (mean <3.0)	29 (9.4%)	42.3%	50.0%	4.2%	10.3%
Disagree (mean 3.0+)	279 (90.6%)	32.1%	37.1%	7.6%	26.3%
Male Sexual Entitlement					
Agree (mean <3.0)	101 (32.5%)	40.7%	45.2%	10.7%	15.8% *
Disagree (mean 3.0+)	210 (67.5%)	29.9%	35.5%	5.6%	28.6%
Gender Equitable Male					
Agree (mean <3.0)	130 (41.8%)	38.4%	43.7%	7.8%	15.4% **
Disagree (mean 3.0+)	181 (58.2%)	30.3%	35.2%	7.3%	30.9%
Acceptance of Community Violence					
Acceptable (mean <2.5)	129 (41.5%)	36.0%	38.6%	5.7%	18.6% *
Not Acceptable (mean >2.5)	182 (58.6%)	32.2%	39.5%	9.0%	28.6%
Rape Myth					
Agree (mean <3.0)	85 (27.3%)	37.3%	42.6%	9.4%	16.5% *
Disagree (mean 3.0+)	226 (72.7%)	32.5%	37.6%	6.7%	27.5%
Alcohol Use					
Not a heavy drinker	264 (84.9%)	26.6% ***	32.1% ***	5.0% **	26.9% **
Heavy drinker	47 (15.1%)	65.9%	70.7%	17.9%	10.6%
Negative Conflict Resolution-General					
Low frequency (mean <2.5)	254 (81.7%)	28.4% ***	34.6% **	6.2%	24.4%
High frequency (mean 2.5+)	57 (18.3%)	57.1%	57.1%	13.5%	24.6%
Negative Conflict Resolution-Partner					
Low frequency (mean <2.5)	122 (73.1%)	27.3% ***	32.8% ***	4.9% **	NA
High frequency (mean 2.5+)	45 (26.7%)	61.9%	66.7%	20.0%	NA

	N (%)	Emotional IPV N=218 (17 refusals)	Physical IPV N=225 (10 refusals)	Sexual IPV N=199 (36 refusals)	No Partner in past 3 months (N=76)
Positive Conflict Resolution-General					
Low frequency (mean <2.5)	167 (53.7%)	28.1%*	34.1%	8.2%	19.8%
High frequency (mean 2.5+)	144 (46.3%)	41.2%	45.5%	6.7%	29.9%

*
Probability .05;

**
probability .01;

***
probability .001.

Table 4

Preventable Factors Associated with Boys' Perpetration of Intimate Partner Violence (IPV). (% yes in past 3 months)

	N (%)	Emotional IPV N=186 (10 refusals)	Physical IPV N=192 (4 refusals)	Sexual IPV N=173 (23 refusals)	No Partner in past 3 months (N=42)
Total	238 (100%)	31.2%	20.3%	11.0%	17.6%
Acceptance of Dating Abuse					
Agree (mean <3.0)	36 (15.2%)	33.3%	30.3%	25.0% **	8.3%
Disagree (mean 3.0+)	201 (84.8%)	30.9%	18.4%	7.9%	19.4%
Male Sexual Entitlement					
Agree (mean <3.0)	69 (29.0%)	36.1%	28.6%	16.1%	8.7% *
Disagree (mean 3.0+)	169 (71.0%)	28.8%	16.3%	8.5%	21.3%
Gender Equitable Male					
Agree (mean <3.0)	117 (49.2%)	35.0%	24.8%	15.1%	10.3% **
Disagree (mean 3.0+)	121(50.8%)	26.5%	14.9%	6.2%	24.8%
Acceptance of Community Violence					
Acceptable (mean <2.5)	104 (43.7%)	36.1%	24.7%	11.5%	17.3%
Not acceptable (mean 2.5+)	134 (56.3%)	27.2%	16.8%	10.5%	17.9%
Rape Myths					
Agree (mean <3.0)	97 (40.8%)	40.0% *	29.7% *	17.2% *	22.7%
Disagree (mean 3.0+)	141 (59.2%)	25.9%	14.4%	7.3%	14.2%
Alcohol Use					
Not a heavy drinker	195 (81.5%)	28.6%	15.1% ***	8.0% *	19.5%
Heavy drinker	43 (18.5%)	41.0%	40.0%	22.2%	9.3%
Negative Conflict Resolution-General					
Low frequency (mean <2.5)	204 (85.7%)	28.3% *	17.8% *	8.9% *	18.1%
High frequency (mean 2.5+)	34 (14.3%)	48.1%	34.5%	22.2%	14.7%
Negative Conflict Resolution-Partner					
Low frequency (mean <2.5)	119 (74.4%)	22.5% ***	16.2% **	8.6% *	NA
High frequency (mean 2.5+)	41 (25.6%)	68.6%	36.8%	21.2%	NA

	N (%)	Emotional IPV N=186 (10 refusals)	Physical IPV N=192 (4 refusals)	Sexual IPV N=173 (23 refusals)	No Partner in past 3 months (N=42)
Positive Conflict Resolution-General					
Low frequency (mean <2.5)	147 (61.8%)	27.2%	19.0%	5.9%	19.7%
High frequency (mean 2.5+)	91 (38.2%	37.5%	22.4%	18.3% **	14.3%

*
Probability .05;

**
probability .01;

***
probability .001.

Table 5

Potentially Preventable Factors Predicting IPV among South African Adolescents who had Partners in the Last 3 Months: Multiple Logistic Regressions: # Odds Ratios (95% Confidence Intervals)

FACTORS PREDICTING GIRLS' VICTIMIZATION	Sexual IPV	Emotional IPV	Physical IPV
Disagreement with Dating Abuse			
Disagreement with Male Sexual Entitlement			.637 (.422–.963) *
Disagreement with Rape Myths			
Negative Resolution of General Conflict		2.04 (1.10–3.78) *	
Negative Resolution of Partner Conflict	2.44 (1.20–4.98) *	1.64 (1.02–2.65) *	2.16 (1.36–3.44) *
Heavier Alcohol Use		1.20 (1.02–1.42) *	1.31 (1.10–1.57) **
FACTORS PREDICTING BOYS' PERPETRATION			
Disagreement with Dating Abuse	.351 (.184–.669) ***		
Disagreement with Male Sexual Entitlement			
Disagreement with Rape Myths			.430 (.250–.742) **
Negative Resolution of General Conflict	3.36 (1.41–8.01) **	2.03 (1.06–3.88) *	
Negative Resolution of Partner Conflict		2.26 (1.43–3.57) ***	1.61 (1.01–2.58) *
Heavier Alcohol Use			1.29 (1.09–1.53) **

Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

*
p .05;

**
p .01;

***
p .001.

Table 6

Moderating effects of Gender on the Structural Equation Model. Sex-specific unstandardized path coefficients (Standard Errors) and z-scores.

			Girls' Victimization		Boys' Perpetration		
			Unstandardize d Path Coefficient (S.E.)	p*	Unstandardized Path Coefficient (S.E.)	p*	z-score**
Frequency of using Negative Styles to Resolve Conflict	<--	Heavy Alcohol use	0.536 (.082)	<.001	0.323 (.086)	<.001	1.79
IPV	<--	Frequency of using Negative Styles to Resolve Conflict	0.380 (.072)	<.001	0.501 (.136)	0.001	−.787
IPV	<--	Disagree with Male Superiority & Violence	−0.100 (.042)	0.016	−0.087 (.035)	0.008	−.249

*
Significance of SEM effects.

**
Test for significance of differences in path coefficients between girls and boys; values between 1.96 and 1.65 are significant at the .10 level.