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HIV Risk, Partner Violence, and Relationship Power Among Filipino Young Women: Testing a Structural Model

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Abstract

A person's ability to minimize HIV risk is embedded in a complex, multidimensional context. In this study, we tested a model of how relationship power impacts IPV victimization, which in turn impacts HIV risk behaviors. We analyzed data from 474 young adult women (aged 15–31) in Cebu Province, Philippines, using structural equation modeling, and demonstrated good fit for the models. High relationship power is directly associated with increased IPV victimization, and IPV victimization is positively associated with increased HIV risk. We highlight in this article the complex dynamics to consider in HIV risk prevention among these young women.

Violence against women and HIV are two global health problems that impact women's health, separately as well as in combination. Women are bearing a growing portion of the burden of HIV in the world, making up 50% of the estimated 33 million people who currently are living with HIV/AIDS (Joint United Nations Programme on HIV/AIDS [UNAIDS], 2008b). Heterosexual sex is a mechanism of transmission that continues to rise, particularly in resource-limited countries. The HIV epidemic is also impacting the younger generation of 15–24 year olds, which accounted for 45% of new infections in 2007 (UNAIDS, 2008b). At the same time, violence against women continues to be a major health concern across the globe, with intimate partner violence (IPV) being a major contributor to this epidemic. Lifetime rates of IPV prevalence globally range from 13% to 61% of women reporting physical abuse and 6% to 59% reporting sexual abuse (Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2005).

When IPV is considered a precursor to HIV risk, victimization has been linked to an increase in HIV risk behaviors in abused women (Jewkes et al., 2006). In addition, partner violence has been shown to be a risk factor for sexually transmitted infections (STIs), which are in turn associated with an increased risk for exposure to HIV (Dude, 2007). Abused women in many settings have reported having difficulty negotiating safe sex behaviors (Win-good & DiClemente, 1997; Wingood, DiClemente, & Raj, 2000). At the same time, abusive men are more likely to have multiple partners, unbeknownst to their primary

partners (Abrahams, Jewkes, Hoffman, & Laubsher, 2004; Abrahams, Jewkes, Laubsher, & Hoffman, 2006; Kalichman et al., 2007).

Beneath these IPV–HIV associations is the emerging concept of relationship power, which has been closely linked to both HIV risk and IPV separately but has not been examined extensively within the HIV/violence interface. Through this study, we seek to assess the impact of relationship power on the interplay of IPV victimization and HIV risk behaviors among a sample of young adult women in the Philippines.

BACKGROUND

IPV and HIV in the Philippines

The Philippines, an archipelago of 7,000 islands in Southeast Asia, is not immune to these two public health problems. In 2004, the Philippines passed the Republic Act No. 9262, known as the “Anti-Violence Against Women and Their Children Act of 2004,” which established measures in which violence against women could be prosecuted. The law was inclusive of physical violence, sexual violence, psychological violence, economic abuse, and threats thereof (Congress of the Philippines, 2004). Nevertheless, IPV remains a significant public health issue. Previous research in Cebu City has revealed that physical IPV is as high as 57% among adults (Ansara & Hindin, 2009; Hindin & Adair, 2002).

At the same time, the prevalence of documented and reported HIV is still very low (<.1%). This may belie a larger prevalence rate, as HIV testing is not common and still highly stigmatized. Although the spread of HIV has been dubbed “low and slow” by many, the country is potentially at risk for a major explosion of the epidemic (UNAIDS, 2008a). An island country, the Philippines has several contextual risk factors. There are a high number of overseas workers, primarily men in the shipping industry. These men may serve as a bridge population between high HIV risk groups and the regular Filipino population. In 2002, more than 7 million Filipinos were deployed as overseas workers in over 120 countries (Philippine Overseas Employment Administration, 2005). Researchers found that of the seamen who recently returned to the Philippines, 34% reported having sex abroad, 36% of whom reported having commercial sex with high-risk groups in sites with high HIV prevalence. Additionally, 85% either had commercial sex or consensual sex with partners upon returning to the Philippines (Mateo, Sarol, & Poblete, 2004). Another risk factor is the growing commercial sex industry developing in the Philippines, as the commercial sex workers (CSWs) have both Filipino as well as foreign clients. Between 15% and 38% of CSWs in one region of the Philippines reported never using condoms with their clients (Liu & So, 1996).

Globally, young adults less than 30 years of age are particularly vulnerable to HIV and sexually transmitted infections (STIs). HIV risk behaviors among adolescents and young adults commonly include inconsistent condom use, multiple partners, and presence of previous STIs or STI symptoms (Crosby et al., 2000; Kaljee et al., 2005; Manji, Pena, & Dubrow, 2007; Wingood et al., 2006). In the Philippines, young adults are experiencing a younger sexual debut than previous generations, and having multiple partners is more common, but condom use is still very infrequent. At the same time, there is still very limited research on these risk behaviors among young Filipino adults. In a population-based study focusing on adolescents, however, investigators found that 23% had engaged in premarital sex (Ray-mundo & Cruz, 2004), a clear indication that the previously conservative societal norms of sexual behavior are changing. Of those who have engaged in premarital sex, 42% reported it was consensual, 32.5% felt pressured, and 2% reported being forced into it (Raymundo & Cruz, 2004). Prevention of sexually transmitted diseases, including HIV, is important in this context. In a population-based study of sexually active young men in the

Philippines, however, 68.9% reported never using condoms and only 21% report always using them (Ramos-Jimenez & Lee, 2007). Prevalence of diagnosed STIs among young adults is quite high, ranging from 3% to 28%. Of those with positive diagnoses, 31% of the women and 88% of the men were asymptomatic (Wi, Sanieel, & Ramos, 2002).

Relationship Power in the Philippines

A person's choices and decisions regarding the practice of safe sex or other self-protective behaviors is inextricably linked to social constructions of power relationships between partners as well as structural inequities between women and men within society. Power often has been described in terms of "power over" another person or "power to" make decisions (Yoder & Kahn, 1992). It includes a person's ability to control another person's actions or to act on his or her own behalf, within the constraints and expectations of a given society. Seen at both societal and individual levels, relationship power can be derived from several sources. On a societal level, there may be culturally bound norms that control access to resources and roles of power based on a person's gender. On an individual and interpersonal level, people's motivations, behaviors, and personalities may be influenced by their ethnic identity, gender role beliefs, and religious beliefs, which can in turn influence the level to which they exercise power in their relationships. Within relationships, a person's power is contingent on the other person and can be seen as relative to that other person (Gupta, 2000). As such, relationship power is still an emerging aspect of study, especially in a setting such as the Philippines.

Relationship Power Dynamics Affecting IPV and HIV

In recent work in the area of power and HIV, researchers have called attention to the importance of examining imbalances of power between men and women at the household, community, and broader societal levels to see how this can impact HIV transmission (Malhotra, Schuler, & Boender, 2002). In the Philippines, women appear to be empowered on the societal level, having the right to vote and hold public office, as well as having equal access to education including secondary and postsecondary schooling. Women on the community level also enjoy freedom of movement, and they are frequently engaged in employment outside the home.

These mechanisms of public empowerment operate in conjunction with household norms, and it is important to examine the power dynamics at the household level in the case of IPV and HIV risk, as this is where it has a substantial impact on behaviors within couples. At the household level, this can be in the form of economic influence, domestic decision-making, reproductive health decisions, and locus of control (Malhotra et al., 2002). Household and economic decision-making in the Philippines traditionally have been shared between men and women, but women report making more of the decisions related to children's needs and family planning (Hindin & Adair, 2002). Women also often are the household treasurers who manage the household budget (Medina, 2001). At the same time, men traditionally are thought of as the head of the household and the primary "breadwinner." A person's locus of control (internal vs external) can influence their engagement in discussions with partners and their ability to voice opinions in the face of opposition.

Very little work has been published where investigators specifically focused on the interplay of HIV risk, IPV, and relationship power. The extent to which these factors interrelate in the Philippines is yet unknown. Relationship power among young adults or within the context of the IPV-HIV interface in the Philippines has not yet been studied. As such, our purpose of this article was to test a model examining the latent constructs of relationship power, IPV victimization (composite of physical, sexual, and psychological), and HIV risk behaviors (previous STI symptoms, multiple or high-risk partners, unprotected sex) among young

adults in partnerships in the Philippines. Our hypotheses were that higher levels of decision-making power and more internal locus of control will be inversely related to IPV experiences, but that IPV will predict higher HIV risk behaviors. Although we tested the direct relationships among the relationship power variables and self-reported HIV risk behaviors, we hypothesized that the impact of decision making and locus of control on HIV risk would be at least partially mediated by IPV experiences.

METHODS

Research Design

We utilized a cross-sectional predictive model testing design to test the theoretical relationships of the variables of interest. We examined the theoretically proposed impact of relationship power on these women's experiences of partner violence and HIV risk behaviors.

Sample

Data presented in this article are part of the Cebu Longitudinal Health and Nutrition Survey (CLHNS), administered by the Office of Population Studies at the University of San Carlos in Cebu, the Philippines. Researchers began longitudinal CLHNS survey 1983, recruiting all pregnant women in 33 randomly selected communities (*barangays*) in Metro Cebu, and 3,327 women were included in the first survey. These women were followed after giving birth to their index children, with surveys being conducted in 1984–86, 1991–92, 1994–95, 1999, 2002, and 2005. Data were gathered on their live-born, nontwin children in the follow-up surveys ($n = 3080$). In 2005, the index children, now young adults ages 20–22, were interviewed themselves ($n = 1912$). In addition, the partners of those index children in relationships were interviewed ($n = 438$).

Because of our interest in relationship power among these young adults, we focused on the data collected from only the index children who were in either cohabitating or married relationships and their respective partners who were also interviewed in 2005 ($n = 920$). We then stratified the data by sex. We present the results from the females in this article ($n = 474$). By nature of the selection of this subsample, these women all were in intimate relationships.

Structural equation modeling (SEM) techniques generally require large sample sizes (greater than 150 participants; Ding, Velicer, & Harlow, 1995) in order to maintain power and obtain stable parameter estimates and standard errors (Schumacker & Lomax, 2004). The sample size must be sufficient to estimate the parameters and determine model fit. Although 10 subjects per observed variable is often an accepted guideline (Bentler & Chou, 1987), non-normally distributed data require more conservative numbers (Schumacker & Lomax, 2004). For this study, we estimated 20 participants per observed measure (10 observed measures), which totals 200 participants. The sample size of 474 was amply sufficient.

Data Collection

The 2005 survey included modules work status, decision-making (household, sexual, and self), locus of control, IPV (victimization), and sexual health behaviors. Study team members translated and back-translated all of the survey instruments from English into Cebuano, the local language in Cebu. Trained interviewers conducted face-to-face interviews in Cebuano, completing the surveys with the participants. Interviews were conducted in private areas, with the researchers returning to the household at a later time if the interview was interrupted. Partners who consented to taking the survey were interviewed several months after the index child interviews took place.

The institutional review board (IRB) from the investigators' institution approved the protocol for this study. The time lapse between index child and partner interviews was in place to ensure safety for the participants concerning the questions of violence in the relationship. As another safety precaution, index children were not aware of the questions being asked of their partners and vice versa. We also provided information to participants regarding local resources for violence prevention and shelter. Informed consent for the respondents included reassurance that no identifying information would be linked with the data when being used for data analysis, and that their data would be kept confidential by the researchers.

Measurement

We included sociodemographic variables for descriptive purposes. We also selected variables representative of the constructs that we used to test the specific hypotheses regarding the relationships between relationship power, self-reported IPV victimization, and self-reported HIV risk factors.

Relationship Power (Exogenous Latent Construct)

In this study, we defined relationship power as a multidimensional aspect of intimate relationships through which partners have the ability to act, make decisions, and assert themselves, even in face of opposition. We measured this independent, exogenous construct through two latent variables: decision making and locus of control. This allowed us to examine each construct's effect on the endogenous variables.

Decision-Making (Exogenous Latent Variable)

The latent variable of decision making represented a woman's relative power in making decisions in her relationship compared with her partner. We assessed this by 16 items ($\alpha .74$), including questions such as, "Whose decision to buy household appliances prevails," "Whose decision to buy clothes for the children prevails," "Whose decision to use family planning prevails," "Who keeps track of the household money," and "Who decides how household money is spent?" Responses were rated as 0 "partner only"; 1 "joint"; or 2 "respondent," with the higher scores indicating more decision-making power. We assessed the items for multidimensionality (Little, Cunningham, Shahar, & Widaman, 2002), of which there were three domains: economic, household and children, and self/sexual. Given the multidimensionality of the scale, the 16 items were parceled into three indicators using the domain-representative approach (Williams & O'Boyle, 2008) to better protect model misspecification. Each indicator was composed of a score of five to six items from the original 16, such that each indicator was composed of items that measured all three domains of decision making.

Locus of Control (Exogenous Latent Variable)

The exogenous construct of locus of control (LOC) was representative of the woman's sense of power over self. We assessed this through the women's responses to 6 items, including statements such as, "Events that happen to me are usually my own doing," "It is usually up to me to have plans work out," and "My health depends on my behavior." Respondents were asked whether they agreed or disagreed with the statements, 0 "no" and 1 "yes." Those with higher scores were classified as having an internal LOC, while those with lower scores were classified as having an external LOC.

Because there were only six items for this scale, the Chronbachs alpha was fairly low ($\alpha = .49$). In order to strengthen the factor loadings for the parceled indicators and provide higher reliability and larger ratios of common-to-unique variance (Coffman & MacCallum,

2005; Little, Cunningham, Shahar, & Widaman, 2002), we chose to construct parcels for these items using the partial disaggregation method of item-to-construct balance (Little et al., 2002). Because it was a unidimensional scale, we used the standardized factor loadings of these items to create parcels, separating the three strongest loadings to anchor the three parcels. The three items with lower factor loadings then were distributed to the parcels in an inverted order, such that the first and sixth strongest loadings were together, as were the second and fifth, and the third and fourth (Little et al., 2002).

Intimate Partner Violence Victimization (Endogenous Latent Intermediary Variable)

The intermediary endogenous variable in the study was that of IPV victimization. We hypothesized that this variable influenced HIV risk, but it was also influenced by independent, or exogenous, variables. As a construct, IPV victimization consisted of the woman's self-reported experience of physical violence and psychological aggression by an intimate (past year), as well as her self-reported history of pressured or unwanted sex experiences (ever). Questions for physical violence victimization included minor acts of violence such as "partner pushed/shoved me" to more severe acts such as "partner hit me with something hard." Questions pertaining to psychological aggression included verbal and threatening behaviors, such as "partner yelled at me" and "partner had something in hand to throw at me." Respondents were asked the frequency of both physical and psychological acts of violence and aggression, ranging from 0 "never"; 1 "rarely, a few times a year"; 2 "sometimes, once a month"; to 3 "frequently, more than once a month." Given the skewed results, we dichotomized responses into 0 "Never" or 1 "Experienced" for each question. Acts of sexual pressuring and unwanted sex were measured with questions including, "first sexual experience was unwanted or pressured," "ever had sex against your will," and "ever had sex out of fear of what your partner would do." We coded the responses 0 "never" or 1 "yes" for each of the questions.

Given the multidimensionality of IPV, we created parceled indicators, each of which was equally representative of the different dimensions. Each indicator of the endogenous latent variable of IPV victimization was composed of a score of three to four items, such that each parceled indicator was composed of items that measured all three domains of IPV victimization.

HIV Risk (Endogenous Latent Variable)

The endogenous, dependent variable was that of HIV risk. We defined this construct as self-reported behaviors or conditions that place a person at higher risk for HIV exposure, infection, or both. Because HIV prevalence is still very low in the Philippines, and a very low number of the general public have been tested, we were unable to use HIV diagnosis as our dependent variable. Instead, we used the women's self-report of the three key risk variables of history of STI symptoms, multiple or high-risk partners, and unprotected vaginal sex that have been well documented as being closely linked to higher likelihood of HIV seroconversion. Respondents were asked if they had had a history of several STI symptoms, including whether they had experienced "vaginal discharge," "pain during intercourse," or "genital warts or ulcers." If respondents answered "yes" to any of the symptoms, they were coded as 1 "positive" for STI symptom history. Those without any STI symptoms were coded as 0. Respondents also were asked how many partners they had had since becoming sexually active. Given the relatively young age of this sample, the country's conservative view of women and sexuality, the relatively later sexual debut (compared with other regions of the world), and that these young adults were engaged in relationships, responses were dichotomized into 0 "1 partner" and 1 "2+ partners." Unprotected vaginal intercourse was measured through a question on condom use ever being used. Given that no

condom use was the risk factor, the responses were coded as 0 “condoms used” and 1 “no condoms used.”

Statistical Analysis

We first examined the characteristics of the sample in terms of their sociodemographic backgrounds, self-reported violence experiences, and self-reported HIV risk behaviors. We also assessed the variables for bivariate correlations, using Kendall's Tau- α for nonparametric data. We then employed a two-step approach to SEM analysis (Anderson & Gerbing, 1988), using the LISREL statistical program (Version 8.8), examining first the measurement model and then tested the measurement models.

We generated a covariance matrix and an asymptomatic covariance matrix, with model parameters estimated using the diagonally weighted least squares (DWLS) estimation method. This estimation method is effective in estimating parameters derived from ordinal and binary data, given the robust standard errors and the protection against violations of normality (Chou, Bentler, & Sartorra, 1991; Sartorra & Bentler, 1990).

We examined the composition of the proposed latent variables by testing the solidity of the measurement model, which assessed the factor loadings of the latent variables on the indicators. After we obtained a satisfactory measurement model, the second step tested the structural model to show the hypothesized relationships among decision making, LOC, IPV victimization, and HIV risk. Adjustments for respecification of the structural model were guided by previous literature, theory, as well as statistical considerations. We tested models with direct paths from the latent constructs of LOC and decision making to HIV risk (no mediation) as well as both models assessing partial and full mediation.

To evaluate the fit of the model based on data to the theoretical model, we used several indices of fit. We used the Satorra-Bentler scaled chi-square (SBSCS) to assess the goodness of fit of the specified model because it is particularly appropriate to infer model fit when data are not normally distributed (i.e., ordinal/binary data; Schumacker & Lomax, 2004). A nonsignificant chi-squared value is desired, as this indicates that the tested model does not differ significantly from the theorized model. We used three additional fit indices to assess the model's overall goodness of fit. We assessed the comparative fit index (CFI), with a desired value close to 1.00, to assess incremental fit. We examined the root mean square error of approximation (RMSEA), another incremental fit index, the recommended value of which should be less than .05 (Schumacker & Lomax, 2004). The third fit index was the standardized root mean square residual (SMSR), the value of which is recommended to be less than 0.05 (Schumacker & Lomax, 2004). Although these indices are sensitive to model misspecification, they are less affected by estimation method, non-normal distribution, and smaller sample sizes (Hu & Bentler, 1998).

RESULTS

Demographic Characteristics of Sample

The age range of the women in this sample was 15–31, with the average age being 20.9 years ($SD = 1.8$ years; see Table 1). The majority were high-school educated (72%), with 12% having at least some college education. While all were living with their male partners, less than one-third (32%) were legally married. The majority lived in urban areas (67%), but only 40% reported being employed outside the home. The average score for the LOC items (possible range 0–6, with 6 being the most internal LOC) was 4.43 ($SD = 1.0$), indicating the majority of women identified with having at least some power over self.

Violence Victimization

Only 19% of the sample reported never experiencing any form of unwanted sexual pressure, physical violence, or psychological abuse. Nearly two-thirds of the sample reported experiencing at least one form of physical or psychological abuse in their relationship within the past year (62%, see Table 1), with 29% reporting both physical and psychological victimization. Of those reporting physical violence, 11% reported experiencing only minor violent acts by their partner in the last year, while 25% reported that their victimization included severe acts. Almost two-thirds (63%) had experienced at least one act of pressured or unwanted sex in their lives. The average number of acts of violence (based on a total score of the dichotomized IPV items, range 0–11) was 2.73 ($SD = 2.4$). Of the women reporting physical violence victimization, 31% reported some degree of cooccurring physical violence with their partner. The women were asked the primary reasons that their partners would hurt them, to which 24% felt it was jealousy, 22% attributed it to too much nagging on her part, 9% reported it to be related to money problems, and 7% said it was because of her own stubbornness and refusing to accept a reprimand from her partner.

HIV Risk

A vast majority of the women (84%, see Table 1) reported not using condoms with their partners. Only 12% of the women reported having multiple partners. Nearly half of the women (44%), however, reported having had at least one symptom of an STI. The number of STI symptoms per respondent ranged from 0 to 4, from a possible five symptoms. About one-half reported no previous STI symptoms (56%), while 23% reported having one, 12% reported two, 12% reported three, and 2% reported four symptoms.

Measurement Model Testing

We present the results from the confirmatory factor analysis and the factor loadings for the four latent variables in Table 2. The factor variances were constrained at 1, but all factor loadings were free to vary. Almost all of the indicators were significant. The only nonsignificant indicator was that of multiple partners. It was close to the desired significance at the 0.05 level, however, and because of the low prevalence, there may have been insufficient power to detect significance. In addition, it was viewed as an important indicator and was therefore retained for inclusion in the structural model. The complete measurement model yielded good fit: SBSCS = 52.91 ($p = .14$, $df = 43$), RMSEA = 0.02, CFI = 1.00, and SRMR = 0.048.

Structural Model Testing

We initially tested a nonmediated model, with direct paths from the exogenous variables to HIV risk. Although this model had adequate fit, we went on to assess for both partial and full mediation. When introducing IPV as an intermediary endogenous variable, the pathways between LOC and decision making and HIV risk were no longer significant, thereby suggesting full mediation. The results from testing the fully mediated structural model are displayed in Figure 1. The model's strong fit statistics are an indication that the observed data were consistent with the theoretical model and that there was a good model fit: SBSCS = 43.22 ($p = .59$, $df = 46$), RMSEA = 0.00, CFI = 1.00, SRMR = 0.06. Of the four hypothesized pathways, three were significant to the 99% confidence level. In this population of young women, higher LOC had a significant direct path to the endogenous variable of IPV victimization, as did higher levels of decision making, although the latter pathway was not significant ($p = .07$). The direct path between IPV victimization and HIV risk was significant. We found that the relationship between both decision-making power and LOC and HIV risk was fully mediated through IPV victimization.

DISCUSSION

Our purpose in conducting this study was to examine the interplay between relationship power variables, intimate partner victimization, and HIV risks among young adults in partnerships in Cebu City, the Philippines. Women in this sample were well educated, with the majority completing high school. Only 40% of the sample was employed outside the home at the time of the study, however, which may indicate the more traditional roles of men as the breadwinners. The fact that not quite one-third of the partnered sample was legally married indicates that, while traditional marriage may be idealized in the Philippines, cohabitation is becoming a more accepted norm.

The relationship between decision making and IPV was not significant, but the limited sample size may have had more of an effect on this rather than the relationship being one of chance alone. The relationship was positive in direction, indicating that higher decision-making power on the part of the woman placed her at risk for experiencing more abuse by her partner. Although it may seem contrary to what might be expected, it is consistent with common decision-making practices about household matters among adults in the Philippines, which was what the study instrument measured. For example, Filipina women often are responsible for financial management, making household decisions, and making decisions regarding family planning. In previous research working with the mothers within the CLHNS, investigators found that this “dominance” in decision making is not necessarily protective against IPV experience (Hindin & Adair, 2002). Instead, they found that women who dominate the decisions of household matters were nearly four times more likely to experience abuse than those women in households where decisions were made jointly.

Given that we constructed this latent variable as a combination of economic power, household decision making, and sexual/self decision making, it is important to note that being a decisionmaker does not necessarily mean that one is in “control” of the factors involved in the decision. Lack of money can be a source of tension within the couple. For instance, a woman may be responsible for financial management, yet the man is often the primary breadwinner. In these times of economic crisis, unemployment is on the rise and this has a direct impact on household budgets and couple dynamics. The woman’s role as financial manager and household decisionmaker becomes strained, and she may be blamed for the financial problems. Conflicts may arise. As demonstrated in Table 1, financial concerns were a primary reason for men to hurt their partners.

At the same time, higher internal LOC is positively related to more abuse. The relationship here may indicate that independent thinking on the part of the woman does not prevent the experience of violence. This also has been demonstrated in qualitative violence literature, in which women voice feelings of strength even in the face of violent partners (Davis, 2002). In this context, the relationship between LOC and abuse may be attributed to several things. It could come from the challenging of more traditional household-level gender norms. Researchers have shown this to be associated with increased violence in other Asian countries, such as Bangladesh (Kabeer, 2001; Schuler, Hashemi, Riley, & Akhter, 1996). On a societal level, Filipino gender roles are less rigidly demarcated than in other countries, and women enjoy a fair amount of autonomy. Yet, on the household level, traditional views of male and female roles are still present.

Another reason for this positive relationship may stem from an element that pertains to this age specifically. Developmentally, young adults are becoming more independent and can sometimes experience feelings of rebellion against their families and society. This can influence their choices in partners at this early stage, perhaps selecting a partner who embodies rebellion rather than one who embodies responsibility. In addition, high levels of

self-agency and LOC have not been predictive of lower risk-taking behaviors among young adults (Breakwell & Millward, 1997; Burns & Dillon, 2005). Our results support these previous findings, suggesting that higher internal LOC is not necessarily protective and may, in fact, confer risk among females in this age group.

The strong relationship between IPV and HIV risk behaviors supports what has been previously found by researchers in many other settings (see Campbell et al., 2008; Gielen et al., 2007 for detailed reviews on the topic). It is important to note, however, that the self-reported HIV risk behavior of “multiple partners” is the female having multiple partners. In some other resource-limited settings, researchers also have assessed the HIV risk factor of multiple partners on the part of abusive male partners because young women who are experiencing violence at the hands of their partners are more likely to engage in risk behaviors or be put at risk for STIs through their partners’ actions. We note that the high prevalence of STI symptoms in this group and the low prevalence of multiple sex partners may indicate some nonmonogamy on the part of the partners, but we had no way of assessing the presence of cooccurring relationships. In addition, the higher levels of decision-making power and a more internal LOC indirectly affect HIV risk through experiences of violence. This may, in part, be attributed to the age of the sample, given the developmental stage of young adults. A wider age range would allow for examination of this in greater detail.

Limitations

Important to note is the high prevalence of cooccurring violence in this sample. Thirty-seven percent of the women reported being victims of violence. Thirty-one percent reported that the violence in their relationship was cooccurring. The extent to which the effect of IPV on HIV risk differs between those in violent relationships in which the violence is cooccurring and those who are only victimized was difficult to assess accurately in this sample. Additionally, the level to which the women’s perpetration of violence is initiative versus reactionary to partner aggression is not entirely clear. We would need to further assess this with a larger sample, which would allow for subgroup analysis to determine whether the relationships between study variables are different in mutually violent relationships (Graves, Sechrist, White, & Paradise, 2005).

We chose to focus on young adults and their behaviors, especially since this group is at particular risk globally for HIV, although these young women may not have had as much exposure to violence, decision making, or both, as older women in their communities. The average age of the subsample we analyzed here was quite young (20 years), in part because more than half of the subsample belonged to a birth cohort (index children of the CLHNS). By including the female partners of the male index children, we incorporated a wider age range. In addition, we were unable to assess the length of these relationships. By limiting the subsample to those women who were either married or cohabitating with their partners, however, we ensured that they were in situations where they faced decision making in their partnerships.

Because this was a secondary analysis of data, our construction of the variables was constrained by the questions contained in the survey. The measures for LOC were based on general life decision questions, rather than on questions specific to IPV or HIV protection intentions. In future work, it would be more helpful to measure LOC and self-efficacy questions that pertain specifically to IPV and HIV. In future studies, questions assessing HIV risk should be more specific. For instance, questions referring to condom use should measure not only use/nonuse but consistency of use and with which partners.

One other limitation is the use of self-report outcome variables instead of biological markers. This is particularly germane to the endogenous variable of HIV risk. This study was conducted in a low HIV-prevalence setting with limited HIV testing occurring. Therefore, very few people in the general population know their HIV status as confirmed through testing. This did not allow us to examine objective outcomes, such as clinical, biological, or both HIV markers. Instead, we relied on self-report of risk behaviors that have been strongly associated with HIV seroconversion in other studies.

CONCLUSIONS

HIV risk has been studied in the Philippines in only a limited manner, yet the country stands at the edge of a major potential epidemic. Intimate partner violence (IPV) is widespread in this island country, but its relationship to HIV risk has not been examined. Through this study, we have made initial strides in assessing the structural relationships between IPV and HIV, including aspects of relationship power in its assessment.

Our findings support the assertion by theorists that relationship power is multifaceted and may be influential in the synergy between IPV and HIV risk. When moving forward with intervention work that addresses both IPV and HIV risk, we must consider relationship power dynamics. In this cultural setting where women enjoy societal and community-level empowerment, it is important to take into account couple dynamics at the household level when assessing the impact of relationship power on IPV and HIV risk. A more enhanced understanding can contribute to the development of interventions for young adult couples that address HIV risk reduction as well as IPV mitigation concurrently.

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FIGURE 1.
Structural model of decision-making, locus of control, IPV and HIV risk.
SBSCS = 43.22 ($p = .59$, $df=46$), RMSEA = 0.00, CFI = 1.00, SRMR = 0.06
* $p < .01$

TABLE 1Prevalence of Sociodemographic, Violence, and HIV Risk Variables (*N* = 474)

Variable	<i>n</i>	%
Sociodemographics		
Age (years)	Mean = 20.9	<i>SD</i> = 1.8
Educational status		
Less than high school	77	16
High school	340	72
Some or all college	57	12
Current relationship status		
Legally married	153	32
Cohabiting	321	68
Urban living stratum	317	67
Employed	182	40
Violence experiences		
Violence victimization		
No victimization (physical, psychological, unwanted sexual experiences)	88	19
Past year violence (physical/psychological)		
None	181	38
Physical only	35	7
Psychological only	122	26
Both physical and psychological	136	29
Severity of physical violence		
Minor only	51	11
Severe included	120	25
Unwanted sexual experience (ever)	300	63
Cooccurring physical violence	147	31
Causes for partner to hurt		
Jealousy	42	24
Too much nagging	38	22
Stubbornness (not accepting reprimand)	13	7
Money problems	16	9
HIV risk variables		
Unprotected vaginal sex	397	84
Multiple partners	57	12
STI symptom history	208	44

TABLE 2

Measurement Model Standardized Loadings

Factor	Indicator	Loading	R ²
Decision making	DM1	.86 *	.75
	DM2	.77 *	.60
	DM3	.91 *	.83
Locus of control	LC1	.80 *	.64
	LC2	.82 *	.67
	LC3	.71 *	.51
IPV victimization	IPV1	.55 *	.31
	IPV2	.46 *	.21
HIV risk	No condoms	.63 *	.40
	Multiple partners	.08	.10
	Previous STI symptoms	.92 *	.80

SBSCS = 52.91 ($p = 0.14$, $df = 43$), RMSEA = 0.02, CFI = 1.00, SRMR = 0.04.

* $p < .01$.