

Understanding Violence Against Chinese Women in Hong Kong

An Analysis of Risk Factors With a Special Emphasis on the Role of In-Law Conflict

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This study examines risk factors of intimate partner violence against women in a cohort of Chinese women drawn from a large representative sample in Hong Kong. Data from a cross-section of 1,870 women are analyzed. Prevalence rates of women's self-reports of violence by their intimate partners and conflict with in-laws are computed and compared in terms of demographic and socioeconomic characteristics. The results show that in-law conflict was the characteristic most significantly associated with women's reports of violent victimization. This suggests that in-law conflict should be included in the screening and assessment of risk for intimate partner violence.

Keywords: *Chinese; in-law conflict; intimate partner violence*

Violence against women is a serious social problem in Chinese societies. The lifetime prevalence of spousal violent victimization in China ranges from 1.8% to 50% (Hicks & Li, 2003; Leung, Ng, Leung, & Ho, 2003; Yick, 1999; Yick & Agbayani-Siewert, 2000), and the lifetime prevalence of perpetration has been estimated at 17% (Parish, Wang, Laumann, Pan, & Luo, 2004), depending on the samples and instruments used. With regard to the annual prevalence of spousal violence, estimates of victimization range from 16% to 26% (Leung, Leung, Lam, & Ho,

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1999; Xu et al., 2005). In a sample of Chinese women attending an antenatal clinic in Hong Kong, it was found that 17.9% had a history of abuse, 15.7% reported being abused in the preceding year, and 4.3% were abused during their current pregnancy (Leung et al., 1999). In another sample of Chinese women attending an outpatient gynecological clinic in mainland China, 43% reported abuse in their lifetime, and 26% reported abuse in the preceding year (Xu et al., 2005).

The study of risk factors is an important research agenda in the public health approach to preventing intimate partner violence (IPV; Mercy, Rosenberg, Powell, Broome, & Roper, 1993). A large number of studies have provided a comprehensive profile of the universal risk factors associated with IPV to help understand the phenomenon and thus identify effective prevention strategies to reduce violence (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). Although the phenomenon of IPV is found across different countries and cultures, universal risk factors may not adequately address IPV in Chinese societies. Although the number of studies of spousal violence in Chinese societies has been increasing during the past decade, more studies are needed to identify culture-specific patterns of spousal violence and risk factors.

The existing approach to studying risk factors specific to IPV in Chinese societies mainly involves determining whether universal risk factors are also applicable to the Chinese. In general, the demographic and socioeconomic factors that have been found to correlate with IPV in Chinese populations are similar to those reported in Western studies. With regard to abusers' characteristics, Chinese abusive partners tend to be unemployed or of a low socioeconomic status (Leung et al., 1999; Parish et al., 2004; Xu et al., 2005; Yick, 2000); to abuse alcohol and drugs (Liu & Zhang, 2005; Parish et al., 2004; Xu et al., 2005); to have a gambling problem (Liu & Zhang, 2005); to be young (Tang, 1999); to have a sense of insecurity, an aggressive personality, poor anger management, and a lack of empathy (Chan, 2004); to have psychological disorders (Liu & Zhang, 2005); and/or to suffer from sexual jealousy (Parish et al., 2004). With regard to social and cultural factors, women's subordination (Liu & Chan, 1999) and male domination (Xu et al., 2005) are regarded as important risk factors that contribute to violence against women in China. Although these studies tested the applicability of theories developed for Western cultures in a Chinese context, they have not adequately addressed cultural and social characteristics that are specific to Chinese societies.

Relationship Between In-law Conflict and IPV

There is a growing recognition that women's experiences of oppression and victimization are different across cultures and even within the same culture. In a qualitative study of a cohort of 15 battered Indian brides, Fernandez (1997) argued that unlike the typical domestic violence scenario in the West that usually involves a lone man battering a lone woman, violence against women in Asia usually involves the husband's family—in particular, senior women such as the wife's mother-in-law.

Other studies in Indian, Indo-Fijian, and Taiwanese cultures (Counts, Brown, & Campbell, 1999) have similarly found that the mother-in-law plays a role in wife beating and that this is probably common in collectivist societies in general.

The mother-in-law may be a perpetrator of violence against women (Ramanathan, 1996; Rianon & Shelton, 2003), including women who are pregnant (Dasgupta, 2000; Leung et al., 1999). A recent study of South Asians in the United States found a significant relationship between IPV and emotional abuse by in-laws (Raj, Livramento, Santana, Gupta, & Silverman, 2006). Conflict with a mother-in-law has also been associated with wives' postnatal depression (Lee, Yip, Leung, & Chung, 2004) and violence by husbands (Chan, 2006; Liu, 2002). Indeed, in such situations, the husband may be a passive observer of violence by in-laws, or he may be a participant in his wife's battering.

This study focuses mainly on in-law conflict, which is more common than in-law abuse. Existing studies of in-law conflict as a risk factor for IPV have mainly used case studies or qualitative studies with small samples, so reliable analyses were not possible and the findings had limited generalizability. Until now, data have not been available to quantitatively examine in-law conflict as a risk factor of IPV. To fill this research gap, we attempted to quantify the levels of in-law conflict and to examine the correlation between in-law conflict and IPV against women in a cohort of Chinese women in Hong Kong.

Method

Design and Sample

This study was part of a larger study that was carried out in Hong Kong between December 2003 and August 2004. The larger study was the first of its kind conducted in Hong Kong to examine the prevalence and risk factors of spouse battering and child abuse. A total of 4,347 valid quarters were randomly sampled from the Register of Quarters maintained by the Census and Statistics Department of the Government of Hong Kong. This was the most up-to-date and complete sampling frame available in Hong Kong. A stratified sample design was adopted, with the records in the Register of Quarters first stratified by geographic area and type of quarters. Selection of sampling units using a systematic replicate sampling technique was used with fixed sampling intervals and nonrepetitive random numbers. The use of replicated sampling facilitated the calculation of sampling errors and ensured that the required effective sample size would be met by adjusting the number of replicates used. Only about 6% of the sample was subject to a clustering effect where more than one target respondent was in a single household. Thus, the impact on the variances (or sampling errors) used in statistical tests in the sample is likely to be negligible. A total of 3,049 quarters were successfully enumerated, representing a

response rate of 70%. Nonparticipation encompassed both refusals to respond (20%) and a failure to contact potential respondents (10%).

All family members that met the study criteria during the study period were invited to participate. Eligible participants for the study were aged 16 or older, gave their informed consent, were married or cohabitated, with or without children, and were Cantonese, Putonghua, or English speaking. The participants were interviewed face to face by interviewers who were trained to conduct household research interviews. A research unit that specializes in conducting face-to-face household surveys was responsible for employing and training about 100 interviewers. Additional training on the ethical procedures for handling participants reporting violence incidents was provided by the first author. The procedures were approved by the ethics committee of the University of Hong Kong.

A total of 5,049 adult respondents were successfully interviewed. The overall response rate was 71%. About 46.4% were male and 53.6% were female. Virtually all (99.5%) were Chinese. About 88.5% were married and a further 6.4% were widowed. Only about 1.9% were in a cohabiting union with their intimate partner.

The data employed in this analysis were a subsample from the household survey. All female respondents living with their partners were selected. A total of 1,870 women with complete records on characteristics of their partners were included in this analysis. The mean age difference between spouses was 4.5 ($SD = 4.5$), and about 14% of the couples had an age difference of more than 10 years. Most of the respondents and their partners had at least a junior middle school (equivalent to Grades 7 to 9 in the United States) or higher education (62% and 65%, respectively) and were married or cohabiting (98%).

Measures

Dependent variables. The Revised Conflict Tactics Scale (CTS2) was employed to measure physical violence in terms of lifetime and preceding-year prevalence. The CTS2 covers five aspects of spousal conflicts—negotiation, physical assault, psychological aggression, physical injury, and sexual coercion—and has been widely adopted to measure different types of spousal conflicts. Its psychometric characteristics are well documented (Straus, 1990). According to the findings of previous studies, the internal consistency reliability of the CTS2 scales is generally high, with an alpha coefficient ranging from .79 to .95 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996), and it has high cross-cultural reliability (Straus, 2004). With respect to criterion validity, an increasing severity of tactics has been shown to correlate with increasing injury severity (Coben, Forjuoh, & Gondolf, 1999). The CTS2 has been translated into Chinese by the first author and validated using Hong Kong data (Chan, 2004). In this study, the Chinese translation of the CTS2 has satisfactory reliability (α ranged from .88 to .96) and validity.

In the present study, male partner violence against women was defined as acts of physical assault (being grabbed, pushed, or shoved; being slapped; having something thrown that could hurt; one's arm or hair being twisted; being threatened with or having a knife or gun used; being punched or hit with something that could hurt; being choked; being slammed against a wall; being beaten; being burned or scalded; or being kicked) perpetrated by a woman's current marital or common-law partner within a specified time frame preceding the interview. The recall time frame was confined to the preceding year and the lifetime of the relationship. Respondents who reported any of the aforementioned acts by their partner in the preceding year and in the lifetime of their relationship were coded as having experienced IPV.

Independent variables. The Demographic Questionnaire was used to detect the demographic and socioeconomic characteristics of the participants and to estimate correlations with IPV against women. The questionnaire included items asking for information about the respondent's and her spouse's age, the age difference between her and her spouse, her and her spouse's education level, her marital status, whether she was a new arrival to Hong Kong, her and her spouse's work status and income, her family income, whether she was receiving social security, whether she or her spouse had indebtedness, and whether she or her spouse were alcoholics and drug abusers.

One question was used to measure the frequency of in-law conflict. The participants and their male partners were asked at the interview to report the number of incidents of conflict with parents-in-law in the previous 12 months. The responses included *never, once, twice, 3 to 5 times, 6 to 10 times, 11 to 20 times, 20 times or more, and none in the past 12 months but it has happened before.*

A social support scale from the Family Needs Screener (FNS; Kantor & Straus, 1999) was adopted. The FNS is a short version of the Personal and Relationships Profile, which is a multi-scale instrument that provides a profile of scores for variables that have an empirically demonstrated relationship with physical violence against a spouse in a marital, cohabiting, or dating relationship, with satisfactory internal reliability (Straus & Mouradian, 1999). The social support scale is a 10-item scale. It has been translated into Chinese by the first author. A back translation was conducted to compare differences. The Chinese version was further checked by two clinical psychologists and three experienced social workers who have been working with family violence. In this study, the alpha coefficients of the Chinese translation of the social support scale were .73 for all respondents, .72 for male respondents, and .74 for female respondents. During the interview, respondents were asked to respond to the items (only have a few friends/family to help with baby/children, feel very isolated, someone who makes me feel confident, someone I can talk to openly, someone I can talk to about my relationship problems, have someone to borrow money from in an emergency, have someone to take care of my children, have someone who helps me around the house, have someone I can count on in times of need, and don't have enough money for my daily needs) and indicate the extent to which they agreed

that the statement described themselves, using the following response categories: *strongly disagree* (1), *disagree* (2), *agree* (3), and *strongly agree* (4).

Participation in the study was voluntary and informed consent was provided. Confidentiality was guaranteed. Once identified as abused, participants were encouraged to seek help and were provided with the necessary information for referral.

Statistical Analyses

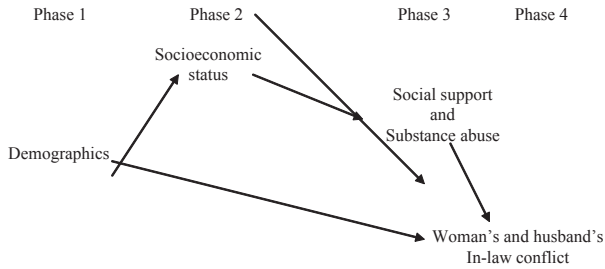
The demographic characteristics of the abused and nonabused women were summarized and compared through the use of crude odds ratios (ORs). To examine the association of demographics (Group 1—respondent's and her spouse's age, the age difference between her and her spouse, her and her spouse's education level, her marital status, and whether she was new arrival to Hong Kong), socioeconomic status (Group 2—her and her spouse's work status and income, her family income, whether she was receiving social security, and whether she or her spouse had indebtedness), social support and substance abuse (Group 3—social support and whether she or her spouse were alcoholics and drug abusers), and women's and husband's in-law conflict (Group 4) with IPV in the preceding year and the lifetime period, a structured multiphase logistic regression analysis was performed with sequential causal relationships between the variables (Lam, Fong, Lauder, & Lam, 2002). Figure 1 provides a diagram of the analytical plan to account for sequential causal relationships between variables.

Specifically, we hypothesized that the variables in Group 1 may affect the variables in Group 2, but not vice versa, and similarly that the variables in Groups 1 and 2 may affect those in Group 3, but not vice versa, and so on. Phase 1 of the analysis was a forward stepwise logistic regression of all variables in Group 1. In Phase 2, a forward stepwise logistic regression was performed on the Group 2 variables after force entering those variables that were significant in the Phase 1 analysis. In Phase 3, a forward stepwise logistic regression was performed on the Group 3 variables after force entering those variables that were significant in Phase 1 and those that were significant in Phase 2. The Phase 4 analysis was conducted in a similar fashion. The effects of the variables in Group 1 were examined in Phase 1, those in Group 2 were examined in Phase 2, and so on.

The same approach of a structured multiphase logistic regression analysis was performed on the sequential causal relationships between the variables to examine the association of demographics (Group 1), socioeconomic status (Group 2), social support and substance abuse (Group 3), and husband's in-law conflict (Group 4) with women's in-law conflict.

The Hosmer and Lemeshow (2000) (H-L) test was used to assess the goodness of fit of the logistic regression analysis. A nonsignificant result implies adequacy of the logistic model. The effects of demographics and socioeconomic status on the experience of women's in-law conflict were examined by a similar structured multiphase logistic regression analysis consisting of three phases.

Figure 1
Diagram of Analytical Plan to Account for Sequential Causal Relationships Between Independent Variables



The nominal level of significance was taken as 5% and Statistical Package for the Social Sciences Version 14 was used for the statistical analysis.

Results

Prevalence

The lifetime prevalence of physical abuse was 8.5%, and the prevalence of preceding-year abuse was 4.5%. The lifetime prevalence of severe and less severe physical violence were 3.4% and 8.3%, respectively; the prevalence of preceding-year severe and less severe physical violence were 1.3% and 4.4%, respectively. Of the respondents who were physically abused in their lifetime, 39.6% were injured and 38.4% were sexually abused by their partners. Of those physically abused in the preceding year, 32.1% were injured and sexually abused by their partners. With regard to in-law conflict, about 4.9% of female respondents and 3.6% of their male partners reported having conflict with their in-laws in the preceding year.

Risk Factors

Tables 1, 2, and 3 present the descriptive statistics as well as the univariate logistic regression results for the demographic, socioeconomic, relationship, and behavioral risk factors.

There were 14 risk factors that were significant ($p < .05$) for lifetime IPV. Respondents and their partners who were young (34 or younger) (ORs = 1.96 and

Table 1
Demographic Characteristics of Respondents (N = 1,870) and Partners and Their Association With Lifetime and Preceding-Year Intimate Partner Violence (IPV) as Reported With Univariate Regression Analyses

Characteristic	N	Lifetime Prevalence of IPV	Crude OR (95% CI) Lifetime	Preceding-Year Prevalence of IPV	Crude OR (95% CI) Preceding Year
Age group of wife					
Younger than 34	305	12.13%	1.958* (1.164, 3.294)	7.87%	4.917* (2.090, 11.569)
35 to 54	1,116	8.51%	1.320 (0.847, 2.056)	4.75%	2.870* (1.294, 6.366)
55 or older	410	6.59%	1.000	1.71%	1.000
Age group of husband					
Younger than 34	169	14.20%	2.052* (1.205, 3.493)	9.47%	3.439* (1.698, 6.964)
35 to 54	1,086	8.47%	1.147 (0.787, 1.673)	4.70%	1.620 (0.927, 2.832)
55 or older	576	7.47%	1.000	2.95%	1.000
Spouse age difference, years, <i>M (SD)</i>	1,832		0.990 (0.953, 1.028)		1.005 (0.957, 1.054)
Education					
F3 or below	1,123	8.46%	0.899 (0.508, 1.593)	3.92%	0.506* (0.261, 0.981)
F4 to F7	548	8.94%	0.956 (0.521, 1.754)	5.11%	0.669 (0.332, 1.347)
Tertiary or above	161	9.32%	1.000	7.45%	1.000
Education (husband)					
F3 or below	1,078	8.16%	0.907 (0.545, 1.507)	3.62%	0.663 (0.341, 1.288)
F4 to F7	530	9.62%	1.086 (0.631, 1.868)	6.23%	1.173 (0.594, 2.315)
Tertiary or above	224	8.93%	1.000	5.36%	1.000
Marital status					
Married	1,796	8.63%	0.756 (0.264, 2.165)	4.45%	0.373 (0.129, 1.080)
Cohabited	36	11.11%	1.000	11.11%	1.000
New arrival					
Yes	123	11.38%	1.383 (0.773, 2.476)	8.94%	2.198* (1.133, 4.264)
No	1,683	8.50%	1.000	4.28%	1.000

Note: OR = odds ratio; CI = confidence interval.

**p* < .05.

2.05, respectively), were both currently in debt (ORs = 3.22 and 2.54, respectively), who abused alcohol and drugs (ORs = 1.90 to 4.61, respectively), and who experienced conflict with in-laws (ORs = 4.12 and 2.72, respectively) had the highest odds ratios. Receiving more social support was a significant (*p* < .05) protective factor (OR = 0.52). Respondents who were employed, those who earned their own income, and those with a higher level of family income had higher odds of violence. A similar pattern was found for preceding-year IPV such that respondents who had a higher level of education, those who were employed, and those who earned more income had higher odds. Most of the remaining risk and protective factors were

Table 2
Socioeconomic Characteristics of Respondents ($N = 1,870$) and Partners and Their Association With Lifetime and Preceding-Year Intimate Partner Violence (IPV) as Reported With Univariate Regression Analyses

Characteristic	<i>N</i>	Lifetime Prevalence of IPV	Crude OR (95% CI) Lifetime	Preceding-Year Prevalence of IPV	Crude OR (95% CI) Preceding Year
Work status					
Unemployed	1,041	7.20%	0.653* (0.472, 0.905)	3.36%	0.527* (0.338, 0.821)
Employed	791	10.62%	1.000	6.19%	1.000
Work status (husband)					
Unemployed	507	7.50%	0.806 (0.551, 1.179)	2.96%	0.555* (0.314, 0.979)
Employed	1,325	9.13%	1.000	5.21%	1.000
Income group					
No income	923	6.61%	0.524* (0.371, 0.741)	3.03%	0.397* (0.248, 0.636)
\$4,999 or below	200	7.00%	0.558 (0.309, 1.006)	2.00%	0.259* (0.092, 0.725)
\$5,000 or above	698	11.89%	1.000	7.31%	1.000
Income group (husband)					
No income	450	7.78%	0.799 (0.539, 1.184)	3.11%	0.546* (0.304, 0.981)
\$4,999 or below	135	4.44%	0.440 (0.190, 1.021)	0.74%	0.127* (0.017, 0.922)
\$5,000 or above	1,225	9.55%	1.000	5.55%	1.000
Low-income family					
Low-income family (less than \$10,000)	487	6.37%	0.646* (0.430, 0.971)	1.64%	0.279*** (0.134, 0.582)
Not "low-income family" (\geq \$10,000)	1,345	9.52%	1.000	5.65%	1.000
Social security					
Receiving social security	99	11.11%	1.350 (0.705, 2.585)	4.04%	0.869 (0.311, 2.423)
No social security	1,687	8.48%	1.000	4.62%	1.000
Debt					
Indebtedness	77	22.08%	3.222*** (1.829, 5.676)	6.49%	1.479 (0.581, 3.769)
Not in debt	1,695	8.08%	1.000	4.48%	1.000
Debt (husband)					
Indebtedness	106	17.92%	2.536*** (1.497, 4.297)	5.66%	1.272 (0.541, 2.993)
Not in debt	1,665	7.93%	1.000	4.50%	1.000

Note: OR = odds ratio; CI = confidence interval.

* $p < .05$. *** $p < .001$.

similarly related to preceding-year IPV as they were to lifetime IPV. However, unlike with the lifetime IPV, indebtedness was not significantly associated with preceding-year IPV. Conversely, although women who had recently immigrated to Hong Kong did not have significantly greater odds of violence in their lifetime, they did have significantly higher odds of preceding-year IPV (OR = 2.20).

Table 3
Relationship and Behavioral Characteristics of Respondents
(N = 1,870) and Partners and Their Association With Lifetime
and Preceding-Year Intimate Partner Violence (IPV) as
Reported With Univariate Regression Analyses

Characteristic	N	Lifetime Prevalence of IPV	Crude OR (95% CI) Lifetime	Preceding-Year Prevalence of IPV	Crude OR (95% CI) Preceding Year
Social support, <i>M (SD)</i>	1,825		0.524* (0.318, 0.865)		0.489* (0.252, 0.947)
Social support (husband), <i>M (SD)</i>	1,812		0.585 (0.340, 1.009)		0.675 (0.323, 1.408)
Women's in-law conflict					
Yes	89	25.84%	4.118*** (2.483, 6.829)	15.73%	4.461*** (2.403, 8.282)
No	1,743	7.80%	1.000	4.02%	1.000
Husband's in-law conflict					
Yes	66	19.70%	2.722** (1.450, 5.109)	13.64%	3.560*** (1.698, 7.462)
No	1,766	8.27%	1.000	4.25%	1.000
Alcohol abuse					
Yes	99	18.18%	2.509*** (1.464, 4.301)	10.10%	2.519** (1.259, 5.042)
No	1,733	8.14%	1.000	4.27%	1.000
Alcohol abuse (husband)					
Yes	205	14.15%	1.897** (1.232, 2.922)	9.27%	2.455*** (1.440, 4.184)
No	1,627	7.99%	1.000	4.00%	1.000
Drug abuse					
Yes	34	29.41%	4.611*** (2.164, 9.826)	14.71%	3.752** (1.414, 9.951)
No	1,798	8.29%	1.000	4.39%	1.000
Drug abuse (husband)					
Yes	40	22.50%	3.178** (1.485, 6.800)	12.50%	3.098* (1.182, 8.121)
No	1,792	8.37%	1.000	4.41%	1.000

Note: OR = odds ratio; CI = confidence interval.

p* < .05. *p* < .01. ****p* < .001.

After multivariate adjustment for covariates using a structured multiphase logistic regression analysis, only six factors remained significant for lifetime IPV (see Table 4): husbands who were young (34 or younger) (OR = 2.02; 95% Confidence Interval [CI] = 1.19, 3.45), indebtedness (adjusted OR [aOR] = 2.84; 95% CI = 1.58, 5.10), husband's alcohol abuse (aOR = 1.70; 95% CI = 1.08, 2.68), and women's in-law conflict (aOR = 3.87; 95% CI = 2.25, 6.65) were most strongly associated with lifetime abuse against the women. Having no income (aOR = 0.53; 95% CI = 0.36, 0.78) and receiving more social support (OR = 0.47; 95% CI = 0.27, 0.79) were significant protective factors. The Nagelkerke *R*² suggested that the model explained 8% of the variance in the lifetime of the relationship. The result of the H-L test was 0.88, which showed that the model was adequate.

Table 4
Structured Multiphase Logistic Regression of Lifetime
and Preceding-Year Intimate Partner Violence (IPV)

Variable	Adjusted OR ^a (95.0% CI for OR) Lifetime IPV	Adjusted OR ^a (95.0% CI for OR) Preceding-Year IPV
Phase 1	(<i>n</i> = 1,805, Nagelkerke <i>R</i> ² = 0.8%, <i>p</i> ^b = 1.000)	(<i>n</i> = 1,805, Nagelkerke <i>R</i> ² = 2.7%, <i>p</i> ^b = 1.000)
Age group of husband (for lifetime IPV)		
Wife (for preceding-year IPV)		
Younger than 34	2.023** (1.188, 3.446)	4.690*** (1.985, 11.083)
35 to 54	1.113 (0.762, 1.625)	2.836* (1.278, 6.290)
55 or older	1.000	1.000
Phase 2	(<i>n</i> = 1,706, Nagelkerke <i>R</i> ² = 4%, <i>p</i> ^b = .933)	(<i>n</i> = 1,718, Nagelkerke <i>R</i> ² = 5%, <i>p</i> ^b = .974)
Income group		
No income	0.526*** (0.358, 0.775)	0.509** (0.309, 0.839)
\$4,999 or below	0.566 (0.303, 1.059)	0.249* (0.076, 0.817)
\$5,000 or above	1.000	1.000
Debt		
Indebtedness	2.835*** (1.576, 5.100)	
Not in debt	1.000	
Phase 3	(<i>n</i> = 1,743, Nagelkerke <i>R</i> ² = 5.4%, <i>p</i> ^b = .333)	(<i>n</i> = 1,798, Nagelkerke <i>R</i> ² = 8.1%, <i>p</i> ^b = .722)
Social support	0.466** (0.274, 0.791)	0.321*** (0.161, 0.639)
Alcohol abuse (husband)		
Yes	1.698* (1.076, 2.681)	2.074* (1.193, 3.603)
No	1.000	1.000
Phase 4	(<i>n</i> = 1,756, Nagelkerke <i>R</i> ² = 7.9%, <i>p</i> ^b = .882)	(<i>n</i> = 1,814, Nagelkerke <i>R</i> ² = 9.7%, <i>p</i> ^b = .423)
Women's in-law conflict		
Yes	3.869*** (2.252, 6.646)	3.659*** (1.880, 7.123)
No	1.000	1.000

Note: OR = odds ratio; CI = confidence interval.

a. Variables in Phase 1 were adjusted by other significant variables in Phase 1. Variables in Phase 2 were adjusted by variables significant in Phase 1 or 2. Variables in Phase 3 were adjusted by variables significant in Phase 1 or 2 or 3 and so on.

b. *p* value by the Hosmer & Lemeshow test.

p* < .05. *p* < .01. ****p* < .001.

For the preceding-year IPV, after we controlled for other factors with the multiple logistic regression models, young women (aOR for age under 34 = 4.69; 95% CI = 1.99, 11.08; aOR for age 35 to 54 = 2.84; 95% CI = 1.28, 6.29), husband's alcohol abuse (aOR = 2.07; 95% CI = 1.19, 3.60), and women's in-law conflict (aOR = 3.66; 95% CI = 1.88, 7.12) were most strongly associated with IPV that had occurred

Table 5
Structured Multiphase Logistic Regression of Women's In-Law Conflict

Variable	Adjusted OR ^a (95.0% CI for OR)	<i>p</i>
Phase 1 (<i>n</i> = 1,841, Nagelkerke R^2 = 1.7%, p^b = 1.000)		
Education (husband)		.007
F3 or below	0.610 (0.320, 1.165)	.135
F4 to F7	1.279 (0.668, 2.449)	.458
Tertiary or above	1.000	
Phase 2 (<i>n</i> = 1,753, Nagelkerke R^2 = 3.8%, p^b = .816)		
Work status		
Unemployed	2.356 (1.200, 4.625)	.013
Employed	1.000	
Income group		.001
No income	0.333 (0.158, 0.699)	.004
\$4,999 or below	1.163 (0.569, 2.376)	.679
\$5,000 or above	1.000	
Phase 3 (<i>n</i> = 1,835, Nagelkerke R^2 = 6.8%, p^b = .559)		
Alcohol abuse		
Yes	2.801 (1.353, 5.801)	.006
No	1.000	
Drug abuse		
Yes	3.250 (1.188, 8.894)	.022
No	1.000	
Phase 4 (<i>n</i> = 1,858, Nagelkerke R^2 = 21.7%, p^b = .925)		
Husband's in-law conflict		
Yes	22.860 (12.657, 41.288)	.000
No	1.000	

Note: OR = odds ratio; CI = confidence interval.

a. Variables in Phase 1 were adjusted by other significant variables in Phase 1. Variables in Phase 2 were adjusted by variables significant in Phase 1 or 2. Variables in Phase 3 were adjusted by variables significant in Phase 1 or 2 or 3 and so on.

b. *p* value by the Hosmer & Lemeshow test.

in the preceding year. Again, having no or low income (aOR = 0.51; 95% CI = 0.31, 0.84 and aOR = 0.25; 95% CI = 0.08, 0.82, respectively) and receiving more social support (aOR = 0.32; 95% CI = 0.16, 0.64) were significant protective factors. The Nagelkerke R^2 suggested that the model explained 9.7% of the variance in the previous-year violence. The result of the H-L test was 0.423, which showed that the model was adequate (see Table 5).

After controlling for other factors with multiple logistic regression models, husband's level of education (F4 to F7) was a significant risk factor of women's in-law conflict when compared to those having a lower level of education. Respondent's working status,

income, and alcohol and drug abuse remained strongly associated with women's in-law conflict. The husband's in-law conflict had the strongest association with women's in-law conflict (aOR = 22.86; 95% CI = 12.66, 41.29). The Nagelkerke R^2 suggested that the model explained 21.7% of the variance in women's in-law conflict. The result of the H-L test was 0.925, which showed that the model was adequate.

Discussion

Prevalence of IPV

The lifetime and preceding-year prevalence rates of violence against women were 8.5% and 4.6%, respectively. These figures were comparable to the prevalence rates of spousal violence found in other victimization studies, which have ranged from 1.8% to 16% (Hicks & Li, 2003; Leung et al., 1999; Leung et al., 2003).

Risk Factors

Consistent with other studies (Goodwin, Gazmararian, Johnson, Gilbert, & Saltzman, 2000; Hedin, 2000; Martin, Mackie, Kupper, Buescher, & Moracco, 2001; Muhajarine & D'Arcy, 1999; Tang, 1999), youth was found to be a risk factor for IPV. In particular, being younger than 34 was associated with an increased risk of IPV. A woman was at higher risk for lifetime IPV if she had financial problems, such as being in debt. This was consistent with findings from past research that showed that women who have more financial worries are more likely to suffer from domestic violence (Bullock, Mears, Woodcock, & Record, 2001). Husband's abuse of alcohol was a strong risk factor of lifetime and preceding-year IPV, which was also consistent with existing studies (Jasinski, 2004; Liu & Zhang, 2005; Parish et al., 2004; Xu et al., 2005).

Unlike some other studies (Leung et al., 1999; Parish et al., 2004; Xu et al., 2005; Yick, 2000), finance-related factors such as unemployment or low socioeconomic status were not found to be risk factors for violence against women. Both respondents and their partners who were employed, and thus earned more income, were at higher risk for IPV. Although we controlled for other factors with the multiple logistic regression models, a woman with higher income was still at higher risk for both lifetime and preceding-year IPV. It is possible that the more financially competent women are, the more likely they may be to fight for autonomy and negotiate for independence. This may result in more spousal conflict or violence if their male partners are not able to cope with these appeals. Of course, this does not imply a need to lower women's socioeconomic status. Rather, society has to change men's attitudes so that they will respect women's changing status.

Receipt of more social support was a significant protective factor. A lack of legal and social support for battered women makes it difficult for them to disclose spousal

violence and thus leave an abusive relationship (Xu, 1997; Xu et al., 2005). This is particularly true for battered women growing up in rural areas of China (Xu et al., 2005). The results of the current study suggest that more social support will thus prevent women from being further abused by their partners.

After controlling for covariates, women's in-law conflict remained the variable with the strongest association to lifetime and preceding-year violence. This study provides empirical data that confirm the relationship between women's in-law conflict and violence against women. In explaining women's in-law conflict as a risk factor, Fernandez (1997) used the concept of "conflicting identities" to label the change in status of the mother-in-law from being a victim when she was a young daughter-in-law to being a batterer when she becomes a mother-in-law. This highlights the change in power status that women experience as they move between family roles. However, it does not explain how this would become a risk factor for violence against women. In fact, in a traditional Chinese family, the power status of a woman does not change as she moves from being a daughter-in-law to a mother-in-law because she retains the structurally subordinated identity of being a woman. She is subordinate to the man, who is the head of the family. According to Confucius, "woman yields obedience to the instructions of man, and helps to carry out his principles. . . . When young, she must obey her father and elder brother; when married she must obey her husband; when her husband is dead, she must obey her son" (Pearson & Leung, 1995, p. 4). It is very common for a mother-in-law to follow the will of her son by disciplining a wife who creates in-law conflict. Chinese women are socialized to identify with men and their interests (hooks, 1989). Consequently, they could be perpetrators of oppression in their roles as superiors in racial/ethnic, class, generational, and other hierarchies. Violence against women is a product of the interlocking systems of gender and generational hierarchies in the family (Fernandez, 1997).

Several risk factors for women's in-law conflict were identified in this study. After controlling for other factors with the multiple logistic regression models, the higher education of husband, unemployment of women, a woman who earned more income, women's abuse of alcohol and drugs, and husband's in-law conflict were strongly associated with women's in-law conflict. It is difficult to determine whether women's abuse of alcohol and drugs are truly risk factors or dysfunctional behaviors that help them cope with violence and conflict. Whichever is the case, the health of abused women deserves considerable attention from health professionals.

The husband's and women's in-law conflict could be connected in two ways. First, not only is stress and conflict in the spousal relationship likely intensified by in-law conflict, but also, this spousal conflict may be exacerbated if conflict is present vis-à-vis both sets of in-laws. If one member of the couple is in conflict with his or her in-laws, it may be perceived by the spouse as being disrespectful to their parents. Where in-law conflict is happening on both sides of the family, the perceived disrespect and resulting stress and conflict between the couple may be doubly intensified. The other possibility

is that husbands who are in conflict with their in-laws may reduce contact with them. This would also mean that the woman's contact with her family is likely reduced since, as noted earlier, women in Chinese society are subordinate to their husbands and are thus unlikely to bypass their husband to make contact with their family. As a result, her social support network will have been weakened. As the current study has shown, with less social support, a woman's risk for IPV is increased.

Implications for Research and Violence Prevention

Our study is among the first to examine the correlates of women's in-law conflict with IPV against women in a cohort of Chinese women with a large population-based representative sample. It is important at this juncture to emphasize that not all Chinese relationships with in-laws are conflictual. Indeed, a small proportion of respondents (4.9% female and 3.6% male) reported having conflict with their in-laws in the preceding year. However, our findings have important implications for prevention and detection of IPV in Chinese communities.

IPV is not a stand-alone problem. Rather, it correlates with other forms of violence against women, such as in-law conflict, which reside within the same familial hierarchical structure that is deeply rooted in Chinese culture. The screening and assessment of IPV in Chinese families should include in-law conflict, which is a form of violence as well as a risk factor of IPV. As has been recommended by some organizations of health professionals (American College of Obstetricians and Gynecologists, 2002; British Medical Association, 1998), violence against women by different family members and using various types of abuse should be taken into account in universal screening for IPV in health care settings. This should not be limited to IPV but should extend to all forms of violence against women. Risk assessment of IPV against women should also take into account indebtedness among women and alcohol abuse among their husbands. Psychosocial support programs should be provided for women. The perpetrators of partner violence and in-law conflict should also have access to such programs. Family-based interventions such as home visitations (Olds et al., 1999) may also be appropriate.

In-law conflict as a form of violence against women likely reinforces a familial culture of using violence as a means to resolve conflict and thus creates a "harmful traditional practice" (United Nations General Assembly, 2006). Hence, a failure to stop in-law conflict would be counterproductive to preventing violence against women.

A major limitation of this study is that in-law conflict was measured by a single item that asked participants and their partners to report the number of incidents of conflict with their parents-in-law during the previous 12 months. This may have led to an underestimation of the prevalence of in-law conflict because the term *conflict* may be subject to different interpretations. Other forms of abuse should also be studied when assessing in-law conflict. For example, some items related to in-law emotional abuse have

recently been explored, such as isolation, social and economic control, domestic servitude, awareness or support of IPV, and direct physical abuse (Raj et al., 2006). More research is needed to further explore the construct of in-law abuse and conflict.

Despite this limitation, this study provides preliminary evidence that women's in-law conflict is a risk factor for IPV. Even though relationship harmony is valued in Chinese tradition, certain women, in particular those who have conflicts with their in-laws, appear to be at an especially high risk. It seems that in-law conflict is a common phenomenon among Chinese and some Asian cultures. The paucity of research on in-law conflict in other ethnic groups suggests that the influence of extended family members may be underestimated in cultures that emphasize individualism. Hence, it may be a universal phenomenon that is more explicit in collectivist societies, such as Chinese societies. It would be worthwhile to examine whether in-law conflict is a risk factor for IPV in different cultures.

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