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From Family to Friends: Does Witnessing Interparental Violence Affect Young Adults' Relationships with Friends?

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Abstract

Purpose—Childhood exposure to violence in one's family of origin has been closely linked to subsequent perpetration and victimization of intimate partner violence. There is, however, little research on the relationship between witnessing violence and subsequent peer violence. This study investigates the effects of witnessing interparental violence among Filipino young adults on their use and experience of psychological aggression with friends.

Methods—The data source for this study was the Cebu Longitudinal Health and Nutrition Survey. Recent perpetration and victimization of friend psychological aggression among young adults ages 21–22 years was assessed through self-reports from the 2005 survey, and witnessing interparental violence during childhood was assessed through self-reports from the 2002 survey. Multinomial logistic regression was used to examine the effects of witnessing interparental violence on subsequent use and experience of friend psychological aggression. Analyses were stratified by gender.

Results—About 13% of females and 4% of males perpetrated psychological aggression towards close friends, and about 4% of females and males were victims. Fourteen percent of females and 3% of males experienced bidirectional psychological aggression. About 44% of females and 47% of males had, during childhood, witnessed their parents physically hurt one another. Witnessing maternal and reciprocal interparental violence during childhood significantly predicted bidirectional friend psychological aggression among males. Among females, witnessing interparental violence did not significantly predict involvement with friend psychological aggression.

Conclusions—Violence prevention programs should consider using family-centered interventions, and apply a gendered lens to their application. Further research on gender differences in friend aggression is recommended.

Keywords

psychological aggression; witnessing violence; interparental violence; peer violence; friends; Philippines

Introduction

Peer violence among adolescents has been well studied in the United States and other developed countries, but to a lesser extent in developing countries (1). The limited number of studies in non-Western countries show that peer violence is common (2, 3). A study among 7th and 8th graders in two Korean middle schools showed that 40% of students psychologically and physically bullied and/or were bullied by other students (2). Another study from the Bangkok showed that about 30% of 7th–12th graders had been involved in a violent event on or outside of school property (3). These figures likely underestimate the prevalence of peer violence since they are based on in-school children, who generally have less risky behaviors than out-of-school children (4).

There is evidence that a large proportion of physically violent and psychologically aggressive adolescents continue on a path of violence into adulthood (5), displaying what has been termed a “life course persistent development pathway” (1). This is especially the case among individuals who are unable to access social and personal resources, such as positive role models, that can mitigate a negative course of development (5). Understanding peer violence among adolescents is necessary not only to reduce violence during this vital period of development, but also to prevent the continuity of violence into adulthood.

Witnessing interparental violence has been linked to poor emotional, behavioral, cognitive, and general health functioning among children (6–8), and particular attention has been given to assessing the impact on children’s violent behaviors (6, 7). Social learning theory posits that youth learn to be violent and be victims of violence by observing the behaviors of primary intimate groups, such as parents (9). Empirical studies demonstrate that childhood exposure to violence in one’s family is closely linked to subsequent violence with intimate partners in later life (10–13). There is, however, little research on the effects of witnessing interparental violence on young adult’s use and experience of psychological aggression with peers (11, 14). Additionally, most research on the intergenerational transmission of violence has been conducted in developed countries (6, 7, 10, 13).

One Finnish study of 12–17 year old psychiatric patients found that boys who witnessed interparental violence had a 2.5 times increased odds of being a victim of psychological and/or physical peer bullying compared to those who had not witnessed violence (95% CI = 1.10, 5.51). This relationship did not hold for girls (15). Among sixth graders and first- and second-year high school students in the Philippines, witnessing interparental violence was strongly associated with adolescent physical aggression towards peers (OR = 2.12, 95% CI = 1.77, 2.53). This relationship did not differ by adolescents’ gender (14). The results of both must be interpreted with caution, however, since neither used a representative sample of youth.

Adolescent Violence Prevalence in the Philippines

While there is little data on the prevalence of interpersonal psychological aggression among adolescents in the Philippines, there is a high prevalence of physical violence (16, 17). According to the 2002 Young Adult Fertility and Sexuality Study, a population-based study of Filipino adolescents, 14% of 15–24 year olds said they physically injured someone or were physically hurt by someone in the past three months. 16% of males and 12% females had perpetrated violence, while 16% of males and 11% of females had been victims (16). Additionally, a 2003–04 nationally representative study of 2nd to 4th year level Filipino students in secondary education found that about 50% of males and females were involved in a physical fight at least once in the past 12 months. (17).

Adolescent Friendships in the Philippines

While the family continues to be an important social institution in the Philippines (18), another source of affirmation and support for Filipino adolescents are *barkadas*, or peer groups (19). Literally translated, a *barakada* is a group of passengers together on a boat and implies a tight-knit crew of adolescent peers embarking on parallel journeys through life. *Barkadas* serve as the center for social activity for young people and are often continued into adulthood. While both male and female youth form *barkadas*, it is more often seen among males. Parents of adolescents tend to see *barkadas* as unproductive, and even negative, influences on their children (20).

Using population-based data, this study examines the relationship between witnessing interparental intimate partner violence and young adults' involvement with psychological aggression with close friends (a subset of peers) in Cebu, Philippines. This study also investigates if the impact of witnessing interparental violence differs based on the gender of the perpetrating parent and the young adult. In this study, psychological aggression is defined as active, passive, verbal or non-verbal communication that is intended to cause psychological pain to another person, or communication perceived as having that intent (21).

Methods

Study Design

This study used secondary data from the Cebu Longitudinal Health and Nutrition Survey (CLHNS), an ongoing study of Filipino women who gave birth between May 1, 1983 and April 30, 1984. A one-stage cluster sampling procedure was used to select participants for the baseline survey. All pregnant women living in 33 randomly selected communities in Metropolitan Cebu were invited to take part in the study. The baseline interview was conducted with 3,327 pregnant women. Follow-up continued for these women and their index children (ICs) in 1991–92, 1994–95, 1998–99, 2002, and 2005. All survey were approved by the Internal Review Board of the University of North Carolina-Carolina Population Center (22, 23). Details of the survey design and implementation have been published elsewhere (22).

Sample

The sample for this manuscript consists of 1,912 index children (ICs) (children born to the cohort of women pregnant in 1983–84) ages 21–22 interviewed in 2005 and 2002. Eight pairs of twin ICs and 15 ICs missing data on violence experience were dropped from the analyses. Remaining missing data were checked to see if they were related to the outcome. The nearest neighbor hotdeck imputation, in which every missing value is replaced with an observed response from a “similar” unit (24), was used to replace missing data. The final sample size was 1,881.

Study Measures

Young adults' use and experience of friend psychological aggression was taken from the IC's 2005 survey, and predictors were taken from the 2002 IC and maternal surveys.

Friend Psychological Aggression—The 2005 CLHNS included a violence scale based on Straus' Conflict Tactics Scale (CTS1) (25) and Revised Conflict Tactics Scale (CTS2) (26). Index children were asked if they had used or experienced acts of negotiation, psychological aggression, and physical violence with non-romantic close friends in the context of a disagreement, annoyance, “spat” or fight in the previous 12 months of the survey. Using the psychological aggression scale of CTS2 (26) and results from Kuder-

Richardson-20 (KR-20) statistics as guidance, we included the following items from the full violence scale to create a *psychological aggression* subscale: 1) Excessively nagged; 2) Yelled or insulted; 3) Swore; 4) Sulked or refused to talk; 5) Stomped out of room. (KR-20 = 0.66; victimization KR-20 = 0.60). Respondents who reported using and/or experiencing at least one of the above items “sometimes” (i.e. once a month) or “frequently” (i.e. more than once a month) were defined as perpetrators and/or victims of psychological aggression. Those who reported “rarely” (i.e. a few times a year) or “never” (i.e. not in the past year) using and/or experiencing the above items were categorized as not perpetrating and/or being a victim of aggression.

The dependent variable, psychological aggression, was created as a categorical measures with four unordered categories: 1) Neither perpetrator nor victim (reference category); 2) Perpetrator only; 3) Victim only; and 4) Bidirectional (perpetrator and victim, though not necessarily with the same friend).

Witnessing Interparental Violence—The 2002 survey asked ICs if they remembered either parent physically hurt the other during childhood, and if so who hurt the other physically. The main independent variable was a categorical measure with four unordered categories: 1) Neither parent hurt the other (reference category); 2) Mother-only hurt the father; 3) Father-only hurt the mother; and 4) Reciprocal violence between parents.

Individual, Maternal, and Household Characteristics—Individual characteristics, based on IC’s 2002 responses, included highest educational grade completed, married/cohabitating (yes, no), current work status (yes, no), attending church at least one per week (yes, no), any current alcohol consumption (yes, no), and history of drug use (yes, no). Maternal characteristics, based on mother’s 2002 surveys, included age, highest educational grade completed, attending church at least one per week (yes, no), and married/cohabitating (yes, no). Household characteristics, taken from both IC’s and mother’s 2002 reports, included location (urban, rural), household size, any household alcohol expenditure (yes, no), and wealth based on asset ownership of living room set, bed with mattress, electric iron, electric fan, air conditioner, refrigerator, VCR, and color television (Chronbach’s alpha = 0.82).

Data Analysis

All analyses were adjusted for the clustered design of the CLHNS and stratified by respondents’ gender. Bivariate multinomial logistic regression was used to examine the association between the dependent variable and each independent variable. Multivariable multinomial logistic regression was used to examine the relationship between respondents’ reports of psychological aggression with friends and independent variables. A block modeling approach was used and independent variables were entered in the following order: 1) IC reports of witnessing interparental violence; 2) IC’s characteristics; 3) Mother’s characteristics; and 4) Household characteristics. Only the full models are presented because they did not meaningfully differ from the block models.

Multicollinearity of the independent variables was evaluated using Variance Inflation Factor (VIF). In logistic regression values above 2.50 may indicate multicollinearity (27). The VIF for this study was 1.17.

Results

Respondent characteristics

There were 892 female and 989 males ICs (Table 1). A similar percentage of males and females reported witnessing inter-parental violence, with about 13% (133 males, 120 females) reporting only their mothers hurt their fathers, 23–26% (256 males, 206 females) reporting only their father hurt their mothers, and seven percent (72 males, 63 females) reporting both parents hurt each other. Compared to male ICs, females had completed significantly more education, were more likely to be married or cohabitating with a partner, less likely to be working, more likely to attend church once or more per week, less likely to drink alcohol, and less likely to have a history of drug use. Females were also significantly less likely to have a mother who was married or cohabitating with a partner. Other than mother's married or cohabitation status, males and females had similar maternal and household characteristics.

Violence characteristics

About 13% (132) of males and 14% of females (124) experienced bidirectional psychological aggression. About 4% (39) of males were perpetrators-only and victims-only, while significantly more females were perpetrators-only (12.7% [113]) than victims-only (4.4% [39]). Females were significantly more likely than males to be perpetrators-only ($p < 0.001$) (Table 1).

Bivariate Analyses

Bidirectional violence in 2005 was significantly associated with witnessing both maternal perpetration and reciprocal interparental perpetration during childhood (Table 2). Neither perpetration nor victimization of psychological aggression was associated with witnessing interparental violence. Perpetrating psychological aggression was significantly associated with higher respondent and maternal education, and living in a larger household.

There was no association between psychological aggression with friends in 2005 and witnessing interparental violence during childhood. Higher education and consuming alcohol significantly increased, while being married or cohabitating significantly decreased, the risk of perpetration and bidirectional psychological aggression. Higher household wealth and urban residence also significantly increased the risk of perpetration and bidirectional psychological aggression. Finally, frequent church attendance significantly increased the risk of perpetration, while higher maternal education significantly increased the risk of bidirectional psychological aggression.

Multivariate Analyses

In the full model, witnessing maternal perpetration (Adjusted Relative Risk Ratio (ARRR) = 1.95; 95% Confidence Interval (CI) = 1.00, 3.80) and reciprocal interparental violence (ARRR = 2.70; 95% CI = 1.51, 4.82) remained predictors of bidirectional psychological aggression among males (Table 3). Of the remaining independent variables, only larger household size was a risk factor for perpetrating psychological aggression (ARRR = 1.14, 95% CI = 1.03, 1.27). No covariates were associated with victimization or bidirectional psychological aggression.

Among females, there remained no significant association between psychological aggression in 2005 and witnessing interparental violence during childhood (Table 4). Being married or cohabitating with a partner (ARRR = 0.26, 95% CI = 0.10, 0.68) and attending church at least once a week decreased the risk (ARRR = 0.51, 95% CI = 0.33, 0.78), while alcohol consumption increased the risk (ARRR = 1.68, 95% CI = 1.06, 2.68), of perpetrating

psychological aggression. Drinking alcohol also increased the risk of bidirectional psychological aggression (ARRR = 2.02, 95% CI = 1.54, 2.65), as did urban residence (ARRR = 0.40, 95% CI = 0.25, 0.64).

Discussion

After adjusting for individual, maternal, and household covariates, males who, during childhood, witnessed maternal perpetration and reciprocal violence between parents were more likely to experience bidirectional psychological aggression as young adults. Previous studies have found that children who are exposed to interparental violence are more likely to exhibit a range of externalizing and delinquent behaviors, including verbal and psychological aggression. However, these studies do not specify the recipients of such aggression, nor do they assess bidirectional aggression (18, 28, 29).

Females who witnessed paternal perpetration were not at increased risk to perpetrate or experience psychological aggression with close friends. However, several other factors did have significant associations with friend psychological aggression. Females who were married or cohabitating had a lower risk of perpetrating and experiencing bidirectional psychological aggression. This may be because married or cohabitating females spend less time with friends and therefore have an overall lower risk of conflict. Young females who drank alcohol were more likely to perpetrate and experience bidirectional psychological aggression, a finding consistent with previous U.S.-based research (30, 31). Alcohol use may be associated with aggression through reduced judgment, irrational behaviors, and decreased inhibitions. Filipino females who attended church frequently had a lower risk of perpetrating psychological aggression. This is in line with previous evidence that demonstrates religious importance and attendance as protective against youth violence perpetration (32, 33). This may be a function of internalizing moral values and normative beliefs, including living a life free of violence, that religion promotes (34).

Our study also finds that bidirectional psychological aggression with friends is more common than one-sided aggression. Research on bullying from other countries is mixed in this regard, likely due to measurement and/or contextual differences across survey and countries. The majority of university students in Japan, South Africa, and the United States who were involved with bullying (which included psychological aggression, physical violence, and/or sexual harassment) were both perpetrators and victims, and this role was experienced by 43%, 26%, and 27%, respectively. These rates are higher than either victim-only or perpetrator-only rates in each country (35). In Korea, however, only 9% of middle school students were involved with both perpetration and victimization of psychological and/or physical tactics, while 14% were victims-only and 17% were perpetrators-only (2).

There are significant gender differences in friend psychological aggression in our study. More females than males were perpetrators-only of psychological aggression, though males and females experienced victimization-only and bidirectional psychological aggression at similar rates. In contrast to our results, one study involving university students in Japan and the U.S. showed that males were more likely than females to perpetrate-only, while females were more likely than males to be perpetrator-only of bullying behaviors. Additionally, male university students in South Africa and the U.S. were more likely to be involved in the offender-victim bully role (35). The greater female-reported psychological aggression found in our study may be due to a difference in the type of relationship and violence measured. Female young adults may have more conflict with close friends, the focus of our study, than with a broader set of peers. Additionally, females may be more likely to perpetrate psychological aggression, whereas males may be more likely to perpetrate bullying, which includes psychological and physical aggression, as well as sexual harassment. Finally,

higher rates of female-perpetrated violence may be a phenomenon specific to the Philippines. In one study of married and cohabitating young adults in Cebu, 56% of females and 25% of males perpetrated physical violence towards an intimate partner (11). In another study of young adults from the same area, 50% of females and 33% of males perpetrated physical violence towards a family member (36).

This study has several limitations. First, the measurement of the dependent variable may not capture all aspects of psychological aggression in the Philippines, and therefore we may have underestimated its prevalence. Second, it is unknown if bidirectional psychological aggression is mutual (i.e. between the same set of friends), or who initiated in cases of bidirectional aggression. Third, this study does not measure excessive punishment or abuse of young adults by parents during childhood, a potentially important confounder. Excessive punishment or abuse during childhood is associated with witnessing intimate partner violence between parents (28, 37), and is a risk factor for involvement with violence in children's later years (10, 13). Fourth, there is potential bias in self-reported data. Young adults who perpetrated or experienced psychological aggression and reported it may be different from those who perpetrated or experienced aggression but did not report it. Finally, the violence scale does not define 'close friend', nor does it ask the respondent to specify the gender of his or her close friend. Therefore, it is difficult to understand the nature of the relationship, including power dynamics that may exist, between the respondent and friend.

Despite these limitations, this research makes several important contributions to research on adolescent violence. First, this is one of the few studies to assess the effect of witnessing interparental violence on friend psychological aggression among adolescents. While the limited research on peer violence in developing countries uses school-based samples (2, 3, 14), this study includes both in- and out-of school adolescents and is therefore representative of young adults in the greater Cebu region. This is also one of the few studies in the developing world to explore intergenerational transmission of violence with both male and female perpetrators, and consider the multidirectional nature of violence among both parents and young adults. Finally, while most studies of violence in developing countries are cross-sectional, this uses two time points for the outcome and predictors.

Our findings have several implications for addressing the use and experience of psychological aggression with friends in the Philippines. Parents should be aware that intimate partner violence not only affects their own marriages or partnerships, but also may negatively affect their children's relationships with friends, particularly among male young adults. Family-centered interventions initiated when children are young adolescents may motivate parents to foster respectful relationships with each other, improve their parenting skills, and in turn improve their children's mental and physical health outcomes, including aggressive behaviors. Randomized clinical trials in the U.S. have shown parenting interventions to be effective in this regard (38, 39). Since almost 60% of mothers of young adults in Cebu attend church frequently, family-centered interventions may be promoted by and otherwise linked with churches.

Females' resilience to the interparental violence witnessed during childhood and the lack of its effect on their own relationships with friends can be used to improve their health in other aspects of their lives. For example, Hindin and Gultiano (8) found that female adolescents in Cebu who witnessed either parent hurt the other were at increased risk of having depressive symptoms ($b = 0.94$, $p\text{-value} = 0.0001$). Understanding why witnessing interparental violence among females does not increase their use or experience of psychological aggression with friends may help violence prevention programs capitalize on these pathways to address and potentially reduce the mental health impact of witnessing interparental violence.

Additionally, instead of assuming adolescents belong to mutually exclusive groups of perpetration and victimization, as some violence prevention interventions have (40), program should recognize the high rates of bidirectional psychological aggression in this population. Efforts that address the retaliatory and mutual violence that is characteristic of many adolescents' relationships may be more effective at reducing cycles of violence than those that contend adolescents are either perpetrators or victims.

Finally, programs should develop gendered approaches to violence prevention. For males, interventions in the Philippines should focus on addressing violence within families of origin, while for females strategies can include reducing alcohol consumption and capitalizing on the role of the Church.

The gender differences found in our study warrant further research. Previous studies have found gender differences in effect size or statistical significance for aggressive behaviors (15, 28, 29). Understanding how gendered societal expectations affect behaviors and how social processes and peer structures differ between males and females can help explain the differential impact of witnessing interparental violence by gender. There may be characteristics of male friendships via *barkadas* that increase the risk of aggression perpetration among males who have witnessed interparental violence. In contrast, females may form relationships with close friends that are qualitatively different from males and, therefore, witnessing violence does not increase their risk of psychological aggression with friends. Further research deconstructing the impact *barkadas* have on young males and females may help explain gender differences in psychological aggression experiences with friends.

Implications and Contribution

Using a population-based sample in Cebu, Philippines, this study found that males who witnessed maternal-perpetrated and bidirectional interparental violence as children were more likely to be involved with bidirectional friend psychological aggression as young adults. Violence prevention strategies should include addressing parents' violence as part of preventing adolescent violence.

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Table 1

Characteristics of respondents and mothers : Cebu, Philippines, 2002 (n = 1881)

	Males (n = 989)	Females (n = 892)	p-value
Psychological aggression with close friends (2005)			
No aggression, %	78.9	69.1	
Perpetration only, % ^a	3.9	12.7	< 0.001
Victimization only, % ^a	3.9	4.4	0.64
Bidirectional, % ^a	13.3	13.9	0.68
Intergenerational violence (2002)			
Recall interparental violence, % ^a			0.58
Mother hurt father	13.4	13.5	
Father hurt mother	25.9	23.1	
Both hurt each other	7.3	7.1	
Neither parent hurt the other	53.5	56.4	
Individual characteristics (2002)			
Years of school completed (range 0–13), mean (SD) ^b	8.0 (2.3)	8.8 (2.0)	< 0.001
Married or cohabitating, % ^a	4.0	14.4	< 0.001
Worked at time of survey, % ^a	58.1	53.3	0.01
Church attendance, once a week or more, % ^a	40.4	58.7	< 0.001
Alcohol consumption, % ^a	74.2	45.0	< 0.001
History of drug use, % ^a	22.2	3.4	< 0.001
Maternal characteristics (2002)			
Age (range 32–66), mean (SD) ^b	44.8 (6.0)	44.8 (6.0)	0.92
Years of school completed (range 0–19), mean (SD) ^b	7.5 (3.9)	7.4 (3.8)	0.69
Married or cohabitating, % ^a	90.5	82.7	< 0.001
Church attendance, once a week or more, % ^a	57.9	60.1	0.36
Household characteristics (2002)			
Number of persons in household (range 1–18), mean (SD) ^b	6.6 (2.6)	6.8 (2.7)	0.32 0.55
Household purchased any alcohol, % ^a	42.5	41.4	0.86
Household asset index (range 0–25), mean (SD) ^b	5.1 (4.4)	5.0 (4.1)	0.87
Rural residence, % ^a	25.9	26.23	

^aSecond-order corrected Rao-Scott chi-square used to test for independence between male and female reports^bAdjusted Wald test used to test for equal means

Table 2

Bivariate multinomial logistic regression of psychological aggression with close friends on witnessing interparental violence among male young adults: Cebu, Philippines, 2005 (n = 989)

	Perpetration	Victimization	Bidirectional
	RRR	RRR	RRR
Intergenerational Violence (2002)			
Recall interparental violence (reference is no violence)			
Maternal perpetration	1.86	1.19	1.93 *
Paternal perpetration	1.61	1.68	1.61
Reciprocal	1.49	0.44	2.50 **
Individual Characteristics (2002)			
Year of school completed	1.22 **	0.91	1.08
Married or cohabitating	— ^a	0.50	— ^a
Worked at time of survey	1.12	1.57	0.69
Church attendance, once a week or more	1.77	0.60	1.20
Alcohol consumption	1.65	0.72	1.33
History of drug use	1.05	0.91	1.04
Maternal Characteristics (2002)			
Age	0.97	0.96	1.01
Years of school completed	1.11 **	0.97	1.05
Married or cohabitating	1.15	0.70	0.81
Church attendance, once a week of more	1.47	1.06	0.99
Household Characteristics (2002)			
Number of persons in HH	1.12 *	1.08	1.03
HH purchased any alcohol	1.00	1.16	0.94
Household asset index	1.07	0.98 *	1.02
Rural residence	0.48	1.33	0.60

*
p < 0.05;

**
p < 0.01

^a Cell size was zero; not possible to calculate standard error

Table 3

Bivariate multinomial logistic regression of psychological aggression with close friends on witnessing interparental violence among female young adults: Cebu, Philippines, 2005 (n = 892)

	Perpetration	Victimization	Bidirectional
	RRR	RRR	RRR
Intergenerational Violence (2002)			
Recall interparental violence (reference is no violence)			
Maternal perpetration	0.75	0.49	1.26
Paternal perpetration	0.62	0.83	1.07
Reciprocal	1.15	0.65	1.13
Individual Characteristics (2002)			
Year of school completed	1.21 **	1.02	1.18 **
Married or cohabitating	0.21 **	0.51	0.27 **
Worked at time of survey	1.06	0.99	0.72
Church attendance, once a week or more	0.73	1.38	1.10
Alcohol consumption	1.95 **	1.63	2.45 ***
History of drug use	0.99	— ^a	0.90
Maternal Characteristics (2002)			
Age	1.00	1.02	0.99
Years of school completed	1.03	1.02	1.07 **
Married or cohabitating	0.80	0.94	1.14
Church attendance, once a week or more	1.55 *	0.74	1.07
Household Characteristics (2002)			
Number of persons in HH	0.97	1.06	0.95
HH purchased any alcohol	0.92	1.20	0.91
Household asset index	1.08 ***	1.01	1.07 **
Rural residence	0.52 *	0.68	0.34 ***

*
p < 0.05;

**
p < 0.01;

p < 0.001

^a Cell size was zero; not possible to calculate standard error

Table 4

Multivariate multinomial logistic regression of psychological aggression with close friends on witnessing interparental violence among male youth adults: Cebu, Philippines, 2005 (n = 989)

	Perpetration	Victimization	Bidirectional
	RRR [‡]	RRR [‡]	RRR [‡]
Intergenerational Violence (2002)			
Recall interparental violence (reference is no violence)			
Maternal perpetration	1.70	1.16	1.95 [*]
Paternal perpetration	1.41	1.73	1.66
Reciprocal	1.23	0.37	2.70 ^{**}
Individual Characteristics (2002)			
Year of school completed	1.18	0.92	1.05
Married or cohabitating	— ^a	0.48	— ^a
Worked at time of survey	1.43	1.42	0.74
Church attendance, once a week or More	1.42	0.61	1.13
Alcohol consumption	1.55	0.62	1.06
History of drug use	1.22	0.89	1.01
Maternal Characteristics (2002)			
Age	0.98	0.95	1.02
Years of school completed	1.08	1.01	1.05
Married or cohabitating	0.77	0.56	0.72
Church attendance, once a week of more	1.08	1.33	0.81
Household Characteristics (2002)			
Number of persons in HH	1.14 [*]	1.10	1.04
HH purchased any alcohol	1.67	1.31	1.01
Household asset index	0.99	1.01	0.97
Rural residence	0.64	1.27	0.66

[‡]Adjusted relative risk ratio (RRR);

^{*} p < 0.05;

^{**} p < 0.01

^a Cell size was zero; not possible to calculate standard error

Table 5

Multivariate multinomial logistic regression of psychological aggression with close friends on witnessing interparental violence among female young adults: Cebu, Philippines, 2005 (n = 892)

	Perpetration	Victimization	Bidirectional
	RRR [‡]	RRR [‡]	RRR [‡]
Intergenerational Violence (2002)			
Recall interparental violence (reference is no violence)			
Maternal perpetration	0.79	0.51	1.32
Paternal perpetration	0.68	0.85	1.13
Reciprocal	1.11	0.62	1.04
Individual Characteristics (2002)			
Year of school completed	1.16	0.99	1.08
Married or cohabitating	0.26 **	0.65	0.33 *
Worked at time of survey	1.08	0.89	0.74
Church attendance, once a week or more	0.51 **	1.32	0.88
Alcohol consumption	1.68 *	1.52	2.02 ***
History of drug use	0.95	— ^a	0.85
Maternal Characteristics (2002)			
Age	0.99	1.02	1.00
Years of school completed	0.95	1.01	1.00
Married or cohabitating	0.82	0.88	1.18
Church attendance, once a week of more	1.30	0.64	0.77
Household Characteristics (2002)			
Number of persons in HH	0.96	1.04	0.93
HH purchased any alcohol	0.93	1.16	0.90
Household asset index	1.05	0.99	1.03
Rural residence	0.63	0.64	0.40 ***

[‡] Adjusted relative risk ratio (RRR);

* p < 0.05;

** p < 0.01;

*** p < 0.001

^a Cell size was zero; not possible to calculate standard error