Domestic Violence in Nicaragua:
The Roles of Individuals, Families and Communities in the Cessation of Abuse.

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Paper prepared for the
2004 Annual Meeting of the Population Association of America
*Boston, MA * 1-3 April 2004*

Session 133
Understanding Domestic Violence in Developing Countries

Introduction.

Over the past thirty years, the issues of women's rights and gender equity have come into ever sharper focus at such international fora as the United Nations' Conferences on Population and Development, and on Women. The establishment of gender equity is understood to be fundamental to both the maintenance of women's health and human rights, as well as to the development prospects of nations (United Nations, 1995). Emerging from these international congresses was the acknowledgement of a dearth of information on certain crucial aspects of women's physical security; specifically, until recently, there has been very little data available on the prevalence and frequency of violence against women, particularly in the developing world.

Researchers and activists have since invested a great deal of effort in the collection and analysis of data on violence against women, especially intimate partner violence, or what will henceforth in this paper be called domestic violence[1]. To the body of scientific literature on domestic violence has been added knowledge of the deleterious effects that violence has on the physical and mental health of those abused by their partners (Diop-Sidibé 2001, Abbott and Williamson 1999, Stark and Flitcraft 1996, Koss and Heslet 1992), as well as the effects on children who witness such violence (Campbell and Lewandowski 1997; Henning, Leitenberg, Coffey, Bennett, and Jankowski 1997). We have also learned more about the risk factors associated with the experience of violence in a developing-world context (Kishor & Johnson 2004, Johnson 2003, Ellsberg 2000). However, there are few studies that look at what factors are associated with the *cessation* of violence among women who report that they have at some point experienced domestic violence from their spouses. Most studies that investigate the cessation of domestic violence do so in the context of recidivism; that is, they analyze the factors associated with whether or not an identified perpetrator of domestic violence offends again (e.g., Wooldredge, 2000).

[1] In the context of this analysis, the term domestic violence is narrowly interpreted as physical or sexual violence against women by their husbands or by their male partners with whom they live as if married.

Because domestic violence is known to pose multiple health hazards to women, and because violent intimate relationships are documentably difficult to remediate, and difficult from which to safely extricate oneself (Wilson & Daly, 1993), it is of keen interest to discern those factors that are associated with a woman's experience of cessation of violence, in order to better inform social policies as well as programs designed to assist women dealing with violent relationships. To that end, an investigation with abused women at the center of analytical focus is required. This analysis seeks to determine which factors are associated with the probability that a woman who has previously experienced domestic violence is currently no longer subject to abuse.

Background

This inquiry is an extension of a previous investigation of the risk factors for a woman's experience of violence in Nicaragua (Johnson 2003; see results in Appendix A). In that investigation, risk factors for violence were conceptualized as existing at multiple interactive social levels in an individual's life. For example, there may be risk factors at a national level, such as a lack of enforcement of laws prohibiting domestic violence; there may be risk factors at the community level, such as pervasive social attitudes that implicitly condone the physical abuse of a wife by her husband; familial characteristics such as family structure – whether a household is nuclear or extended – may increase a woman's likelihood of experiencing violence; there may be partner characteristics such as a tendency toward drunkenness, and individual characteristics, such as having grown up in a household in which one's mother was hit by her husband, that increase the probability that a woman will experience violence from her own husband or partner. This perspective is derived from Bronfenbrenner's (1977) work on the social ecology of human development.

The present analysis is based on the same theoretical perspective, but addresses the problem of violence that has already begun, and seeks to determine what factors allow for a cessation, or non-experience, of violence once it has begun. Characteristics of women, their husbands/partners, and their social milieu that are considered to be positively empowering are hypothesized to increase the likelihood that a violent relationship will become non-violent, either by a woman's departure from the relationship, or by the man's cessation of violent behavior. Conversely, characteristics that are theorized to be disempowering will both prevent the couple from negotiating an end to violence within the relationship, as well as prevent the woman from leaving the violent relationship. A characteristic is understood as empowering when it improves a woman's ability to access information, make decisions, and act in her own interests or in the interests of those who depend on her (Kishor 2000).

Data and Methodology

Survey data

The data in this study come from the Demographic and Health Surveys (DHS). These nationally and regionally representative surveys have been carried out since 1984 in over 60 less-developed countries. Many countries have had periodic DHS surveys. The

surveys are based on scientifically selected samples of households and inquire about household and household members' characteristics, including the survival status of the parents of all children residing in the household at the time of the survey. Basic characteristics of all members and overnight guests are collected in a schedule format, similar to that of a census, with information provided by any adult member of the household. Individual women of reproductive age (15 to 49 years of age) are interviewed individually in face-to-face interviews on their background characteristics, work status, fertility levels and desires, contraceptive use, and use of maternal and child health services. Infant and child mortality is obtained through a birth history. Nutritional status of children and women is determined through anthropometry, and anemia status is measured by use of portable hemoglobinometers.

The DHS surveys interview between 3,500 and 90,000 households, with 5,000 to 8,000 being typical. On average, approximately one woman per household is found to be of reproductive age, though all such women are interviewed, except when the standard household relations[2] module is employed – then only one woman per household is administered the domestic violence portion of the questionnaire.

This study uses data from the 1997/98 Nicaragua DHS, for which 12,783 households were selected for the survey, 12,107 households were located, and 11,528 households completed the household questionnaire, for a household response rate of 95.2%. The response rate among eligible women was a bit less, with 14,807 eligible Nicaraguan women in the households surveyed, and 13,634 women who completed the survey for a 92.1% response rate. There was no subsample of households for the administration of the domestic violence module; however, in order to maintain confidentiality, in those households where there existed more than one woman, only one woman was randomly selected. In total, 8,508 Nicaraguan women were successfully administered the domestic violence module; only those who reported having ever experienced domestic violence were selected for this analysis (n = 2,570).

Weaknesses of the analysis

The primary limitation of using survey data such as the DHS to examine the problem of domestic violence is that it provides a single, snapshot look at a cross-section of the population. Arguably the best data source for understanding the underlying causes of and mechanisms related to domestic violence would be a national-level, long-term longitudinal study; however, such data have not yet been collected to the author's knowledge. Cross-sectional data can only be analyzed for risk factors associated with domestic violence – not for causal relationships.

Another limitation in this study is the fact that the timing of episodes of violence cannot be established; women are asked only if they have ever experienced violence, and if they have experienced violence in the past year. This poses a problem with regard to those who were recently married or in union for the first time – they may not have been sufficiently exposed to the possibility of experiencing a cessation of spousal abuse, given that their marital relationship has only just begun, and therefore by definition their

[2] The household relations module is the module within which the questions on domestic violence are asked.

experience of spousal abuse could have only just begun. However, only 11 percent of women in the sample have been married for less than five years, and the findings for relatively nearby countries such as Haïti, Colombia, and the Dominican Republic indicate that for over half of women, violence begins within two years of the beginning of the union; about 75 percent of women in those countries have experienced violence by the fifth year of their union (Kishor & Johnson, 2004). Therefore, although the data may be somewhat biased in this regard, which would have the effect of depressing the proportion of women who report having experienced a cessation, and could also affect the relationship of age to the dependent variable, it is not expected to affect the overall findings of the analysis in a significant way.

Critiques of DHS data on domestic violence.
In another study of domestic violence in Nicaragua, Ellsberg, Heise, Peña, Agurto & Winkvist (2000) raise several issues with regard to underreporting in the Nicaragua DHS, and hence the validity of the data. They conclude that it is inappropriate to include questions on domestic violence in a questionnaire that addresses multiple topics. They reached this conclusion based on their comparison of results of two small-scale studies focused on domestic violence with those generated by the Nicaragua DHS, which covers multiple topics. However, domestic violence data from the 2000 Cambodia DHS compares favorably with nationally-representative data collected by Nelson and Zimmerman (1996) using a questionnaire that was exclusively devoted to matters of household relations and domestic violence (prevalence of violence revealed by DHS was 16 percent; violence revealed by the Nelson and Zimmerman study was 16.1 percent). Thus, the evidence as to whether or not the format of data collection affects the findings, particularly with regard to prevalence of domestic violence, remains inconclusive.

Safety and ethical considerations in the collection of DHS domestic violence data.
The World Health Organization (WHO) recommends that its guidelines be followed while collecting data on domestic violence. WHO's recommendations focus on maximizing safety in the field for both respondents and interviewers. Recommended ways of increasing safety include conducting interviews only in a private setting; administering questions on domestic violence to only one woman per household; training interviewers to end an interview or redirect the questioning if privacy with the respondent is compromised; and directing resources toward the identification and implementation of alternative sites at which women requiring privacy unobtainable in the home can meet with the interviewer to complete her response to the questionnaire. It should be noted that some of the recommendations, such as administering the questionnaire to only one woman in the household, have not been empirically validated as having any effect on the safety of interviewed women. These standard ethical procedures for gathering data on domestic violence incidence were followed in the collection of the Nicaragua DHS data. If more than one eligible woman was found in a household selected for the module, only one woman was administered the questionnaire, in order to maintain the security of the woman. Questions on domestic violence were asked only if privacy could be attained.

Analytical approach

The domestic violence module was not administered to all women in the national sample; thus, special weights calculated by the Demographic and Health Surveys program were used in the bivariate analysis. Multivariate analyses were not weighted, so as to maintain a one-to-one relationship between respondents and their data. The data were analyzed using SPSS 10.0.

For bivariate analysis, chi-square tests of independence were implemented. Since our outcome variable of interest is dichotomous (if a woman reports having experienced domestic violence in the past year or not), it is preferable to employ logistic regression methods to test our hypotheses. Logistic regression constrains the estimated probabilities to lie between 0 and 1, which best reflects reality in this analysis: a woman either has or has not experienced partner violence in the past year.

As all variables selected for analysis either function within the ecological theoretical framework, are considered important by the relevant literature, or are basic demographic indicators, all are included in the multivariate logistic regressions, regardless of their significance in the bivariate. Variables are considered significant in the regression models if $p < 0.05$.

Only women who have ever been in a formal marriage or in a consensual union are included in the analysis. Never-married or never-in-union women have been excluded under the assumption that they have not been exposed to the type of relationship that puts them most at risk for the experience of domestic violence.

Dependent variable

The type of violence indicated by the dependent variable consists of physical or sexual violence from the respondent's husband, which includes ex-husbands/ex-cohabiting male partners as well as current husbands/current cohabiting male partners. These indicators are derived from a modified version of the Conflict Tactics Scale (CTS), as well as selected other questions from the violence module.

While it is the most commonly used quantitative measure of domestic violence, the original CTS has been criticized on several points (c.f. DeKeseredy and Schwartz 1998). The modified CTS in use here has been adjusted to account for most of the critiques. It incorporates questions on sexual violation, and it does not assume that violence takes place only in circumstances characterized by conflict. Information is collected on whether or not a woman has experienced specific acts that are deemed to be abusive. No attempt is made to rank the abuses by severity, one critique of the original CTS.

The first questions in the modified CTS assess whether or not a woman's partner has verbally humiliated her or threatened to hurt her (the responses to these questions about emotional violence are not included in the aggregate measure of violence for this analysis). The next few questions ask about a woman's experience of various physical and sexual abuses. Each of these questions is asked in both the "ever" format (Has your

husband ever slapped you or twisted your arm?) and in the "past twelve months" format (Has your husband slapped you or twisted your arm in the past twelve months?). Following these questions are another series of questions that attempt to assess whether a woman has ever experienced a physical injury as a result of something her husband or partner did, and a question on whether a woman's husband or partner ever hit her when she was pregnant.

If a woman answered affirmatively to any one of the CTS, injury, or violence during pregnancy questions, she was categorized as having experienced domestic violence. The selection criterion for inclusion in the analysis was based upon whether or not a woman had ever experienced domestic violence; only women who reported that they had ever experienced domestic violence were selected into the study. Among these women, those who continue to report experiencing violence in the past year are assigned a value of zero, while those who report a cessation of violence – that is, they report that they have not experienced violence in the past year – are assigned a value of one.

In the Nicaragua dataset, 2,570 women have ever experienced violence from their intimate partner. Among these women, 1,449, or 56.4 percent, report that they have not experienced partner violence in the past year, while 43.6 percent have continued to experience violence (table not shown).

Explanatory variables

In congruence with Bronfenbrenner's (1977) articulation of an ecological theoretical perspective on social processes, explanatory variables include characteristics of the husband of the respondent, the respondent herself, the characteristics of their union, their family, and their community.

A. Men's characteristics.

i. Drunkenness. Increased frequency of drunken episodes on the part of husbands or male partners has been associated with increased likelihood of committing acts of domestic violence in several studies (Johnson, 2003; Ellsberg, 2000; Kunitz, Levy, McCloskey and Gabriel, 1998). The DHS asks the female respondent how often her husband or partner gets drunk. The response categories include the following: never, once in a while, once a month, once every two weeks, once a week, or every day. For the purposes of this study, the response categories for the variable that indicates the frequency of husband's drunkenness are collapsed into the following: rarely (never or once in a while), regularly (once a month or once every two weeks), and frequently (once a week or every day).

ii. Education and occupation. Men's education is used as a control variable, and is categorized by levels of schooling completed: no schooling, primary schooling, and secondary or higher schooling. Occupational categories for men are not working, professional (professional, technical, managerial, clerical, or sales), agricultural, services or skilled manual, and unskilled manual.

B. Women's characteristics.

i. Education. Education has been shown to be a source of empowerment for women, facilitating their ability to gather and assimilate information, to manipulate aspects of their circumstances within a modern world, and to interact effectively with modern institutions (Caldwell 1986, Kishor 2000; however, see Malhotra and Mather 1997). As a source of empowerment, it is hypothesized that women with more education have greater resources to draw upon in order to engage in empowered behaviors. Education is measured according to the level of schooling completed – no schooling, primary schooling, or secondary levels of schooling and higher.

ii. Number of children born. The number of children a woman has is employed as a continuous variable in the multivariate analyses, but is collapsed into groups for the bivariate analysis as follows: no children, one child to two children, three to four children, and five or more children. It is hypothesized that having more than the average number of children in each country will increase the likelihood of experiencing violence, particularly when a woman is not formally married. The reasoning behind this is that it is assumed that the more children a woman has to care for, the more dependent she becomes on her husband, and the more likely she may be to put up with bad behavior from him since she is dependent on him, and thus disempowered to act on her own (see brief discussion in Mason 1987, p718).

iii. Woman's current age. Several studies undertaken in disparate cultures (Fernandez 1997: India, McCluskey 2001: Belize) indicate that as women's age increases, their social status also increases (see also Mason 1986), and they become less vulnerable to acts of domestic violence. Thus, we incorporate current age groups as covariates in this analysis: 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, and 45-49.

iv. Age at first union. Age at first union is likely to be an indicator of how long a girl or woman has had to develop her own ways of being without the intimate influence of a husband or partner. It is likely that the younger a woman is when she marries, the less sure she will be of herself, her own needs, and her own rights, which may make her more vulnerable to inappropriate behavior from her husband or partner. Conversely, a woman who marries at a later age has likely had the opportunity to pursue higher education or to be employed, either of which also may cultivate a greater sense of autonomy (Mason 1987). This is a categorical variable, grouped into categories of those married before age 15, between 15 and 19, between 20 and 24, and at age 25 or later.

v. Women's employment. It has been argued by some who study women's empowerment that women who work are more empowered, economically, and by extension, socially vis-à-vis their male partner. However, if employment confers empowerment, it may be dependent on the cultural context; the argument may not apply in non-Western settings (Malhotra and Mather 1997). For example,

preliminary findings from analysis of the 1998 Nicaragua DHS indicate that women in consensual unions who report that they are employed, especially in sales occupations, are at statistically significantly *higher* risk for experiencing domestic violence (Johnson 2002). Women's occupation type is incorporated here because it is expected to influence a woman's experience of domestic violence, although the direction of influence is expected to be context-specific.

vi. Family history of violence. Several studies have found that when either a husband or a wife has a family history of violence (that is, that the parents of a husband or wife had incidents of domestic violence), the risk of domestic violence in the union of the index husband and wife increases significantly (Kalmuss 1984; Seltzer and Kalmuss 1988). A variable that indicates whether the respondent's mother was beaten by her father is incorporated here.

C. Family-level variables.

i. Formality of union. The type of union a women is engaged in – whether formal marriage or informal consensual union – would appear to be a fundamental indicator of the quality of a couples' relationship. Most researchers of domestic violence do not take into account whether the type of union a woman is in is consensual or formal. Researchers such as Brownridge & Halli (2001) are some of the few who do argue that domestic violence analyses should break women in union into married and cohabitating couples[3]. Brownridge & Halli (2001) find that Canadian cohabiting couples and pre-marriage cohabitors (those who cohabited before they got married) are far more likely to report having visited a doctor or nurse for treatment as a result of experiencing violence from partner.

For those engaging in domestic violence research in some non-Western countries, the importance of breaking women in union into separate categories of formal and informal union grows even more important. The consensual union is an established form of union in several Latin American and Caribbean nations. Preliminary analyses indicate that the formality of domestic unions may influence the likelihood of experiencing domestic violence (Johnson 2002).

Unions that are formalized have legal status, and the parties involved may be held accountable, or feel that they could be held accountable, for their actions within that union to a greater degree than those involved in less-formal consensual unions. That accountability may serve as a deterrent from enacting domestic violence, thus providing a degree of empowerment to the woman. Conversely, there may be a selection bias among those who enter more formal unions in places like Nicaragua, where sixty percent of cohabiting unions are not formal marriages. To explore the linkage between formality of union and domestic violence, an indicator of union type is included. This indicator is dichotomous; the response categories are formal union or informal union. If a woman is not

[3] Brownridge and Halli (2001) also suggest the addition of a further category of couple type: those who cohabitated before they got married.

currently in union, she is categorized according to the type of union in which she was previously engaged.

ii. Familial support. Familial support is one form of social support that has been shown to be a highly significant determinant of domestic violence in Nicaragua (Johnson 2002). Women who indicate that they feel they have support from their natal family report significantly less violence that women who report that they do not have familial support, even after controlling for background factors. The nature of the causal relationship, however, is unclear: it may be that women who have the support of their families are not as easy a target for abuse as women who do not have a family to call upon in times of need. Alternatively, there is the possibility that women who come from supportive families have more assistance in selecting a non-violent partner. Regardless of the direction of the relationship, it is hypothesized that having family support provides a form of empowerment for a woman within her marriage. The family support variable is incorporated into this analysis as a dichotomous indicator.

iii. Household wealth. Socioeconomic status is an independent variable that has uneven empirical support in its relation to domestic violence. There is a relatively large American literature on domestic violence among the poor and publicly housed, but less work that investigates domestic violence at a national or regional level, and then assesses the findings for differences in socioeconomic status (one example is Kishor & Johnson, 2003). Very little literature exists on the relationship between household wealth status and domestic violence in developing countries, and little in the way of theoretical literature to explain why a relationship between domestic violence and poverty might exist. An indicator of the wealth status of the household is incorporated here, both to control for this factor's effects on other variables of interest, as well as to analyze its relationship to domestic violence.

The wealth variable used in this study to indicate the relative wealth status of the household is of particular interest. Recent advances in the use of survey-based household assets data allow researchers to evaluate, with greater confidence than ever before, the distribution of poverty in populations (Filmer and Pritchett, 2001). The wealth index used here is one recently developed and tested in a large number of countries with regard to inequities in household income, use of health services, and health outcomes (Rutstein, Johnson & Gwatkin, 2000). It is an indicator of wealth that is consistent with, though different from, expenditure and income measures (Rutstein 1999). It is best interpreted as an indicator of a household's permanent income status.

The wealth index was constructed using household asset data (including country-specific assets) and principle components analysis. The asset information was collected through the DHS household questionnaire, and concerns household ownership of a number of consumer items ranging from a television to a bicycle

or car, as well as dwelling characteristics such as type of drinking water available, sanitation facilities used, roofing and flooring.

Each asset was assigned a weight (factor score) generated through principle components analysis, and the resulting asset scores were standardized in relation to a standard normal distribution with a mean of zero and a standard deviation of one (Gwatkin et al. 2000). Each household was then assigned a score for each asset, and the scores were summed by household. The sample was then divided into population quintiles; each quintile was designated a rank, from one (poorest) to five (wealthiest), and individuals were ranked according to the total score of the household in which they resided.

With this wealth variable, it is not necessary to rely on tenuous proxies for income or wealth such as education or occupation: it is now possible to tap long-term wealth status directly for a given household. Unfortunately, this method, like other measurements of household wealth, does not permit analysis of within-household distribution of wealth, a measure of potential inequality that is sorely needed in order to better understand bargaining processes and the power dynamics of relationships within households.

As mentioned previously, there is contention in the domestic violence literature as to whether or not wealth or socioeconomic status has an effect on domestic violence. The model presented for this analysis represents domestic violence as a social, power-based and gendered phenomenon, related more to the propensity of individuals (supported by families, communities, and governments or religions) to resort to violence against women than to economic status. While I do not argue that women of the higher socioeconomic classes are behaviorally less likely to engage in relationships with abusive men, or that there is a dearth of abusive men in higher income strata, I do posit that wealth may in fact allow some women to shield themselves from the effects of domestic violence, effectively using wealth as a form of protective power. Women who have greater access to household wealth may be able to leave abusive relationships, or avoid an abusive partner, more easily than women with no resources.

iv. Shared decision-making in the household. Having the power to contribute to household decisionmaking is a key component of women's empowerment (Kishor 2000). It is theorized here, based on previous findings (Johnson 2002), that it is *joint* household decisionmaking that indicates a healthy union. When couples make decisions about their lives together, it indicates that a crucial level of communication and mutual respect is extant in the relationship. Unions where women have little say in household matters are more likely to experience domestic violence, as are unions where women make most household decisions completely independently. The latter situation likely indicates an intentional abdication of the husband's qualitative participation in the relationship, which may lead to violence in the household. Data from two decisionmaking questions are used in this analysis: who has the final say on deciding about

contraceptive use, and who makes money decisions in the household. Response categories for this variable are as follows: the couple decides jointly; the woman decides alone; the man decides alone; someone else is involved in the decisionmaking.

v. Family structure. Kishor (2000) argues that in order to understand the empowerment of women via empirical research, there is a need to conceptually differentiate among the many variables frequently used as indicators of "women's empowerment." Kishor (2000: 120) suggests that there exist variables that indicate *direct evidence* of empowerment, those that indicate *sources* of empowerment, and those that indicate *settings* in which empowerment might be expected to occur (or not). Family structure can be considered a setting within which women are empowered to act, or constrained from acting – possibly through the use of violence.

While most literature associates patrilocal extended family living arrangements with less autonomy and empowerment for women, it may also be that women living within an extended family receive a degree of protection from domestic violence, given the regular presence of other family members in the household. The family structure variable employed in this analysis is categorical, reflecting whether or not a woman lives in an extended family arrangement, whether she is living in a nuclear family relationship (with a husband, and with or without children), or whether she reports to be the head of her own household (with or without children).

vi. Interspousal differences in age. Many researchers have posited an association between interspousal age difference and women's status (Presser 1975; Caldwell, Reddy and Caldwell 1983; Cain 1984; Casterline, Williams and McDonald 1986; Mason 1986). The argument is generally that where there are large age differences between spouses, such that the woman is significantly younger than the man, women are more likely to be disempowered vis-á-vis their husbands. Such relationships are viewed as being asymmetrical, with implications of a wide divergence in status, power and wealth between the older husband and the younger wife. To illustrate the conscious implementation of interspousal age differences toward the end of creating power imbalances within married couples in South India, Caldwell, Reddy and Caldwell (1983: 151) point out that "One of the reasons most commonly put forward for a large age gap between spouses is that this is a necessary mechanism for giving husbands *sufficient dominance* to resist their wives' sexual demands" [italics mine].

Based on these previous theories and findings of age-difference-related power imbalances within marital unions, a measure of interspousal age difference is incorporated into this analysis.

D. Community-level variables.

i. Urban or rural residence. Rural communities are hypothesized to experience less domestic violence than urban communities, because rural communities are assumed to be tighter-knit, non-anonymous, and family members are usually close at hand to support women in need of assistance.

ii. Female community acceptance of domestic violence. To obtain an indicator of how supportive communities are of the physical punishment or abuse of women within the household, a variable is created that averages at the cluster level women's responses to questions on the acceptability of domestic violence.

Three indicators are used to create an individual-level variable on acceptability of wife abuse. In the 1998 Nicaragua DHS, women were asked whether or not it is acceptable for a woman to divorce her husband if he beats her often, whether or not it is acceptable for a woman to deny her husband sex if he beats her, and whether or not a woman should endure physical abuse in order to keep her family together.

Thus,

a) A response that indicates that it is acceptable for a woman to divorce her husband if he beats her often would score a '0.' A response that indicates the belief that it is unacceptable for a woman to leave an abusive husband would score a '1.' Only nine percent of Nicaraguan women believe that a woman should not seek a divorce from a man who beats her often.

b) A response that indicates that it is acceptable for a woman to deny her husband sex if he beats her would score a '0.' A response that indicates the belief that a women should not deny her husband sex even if he beats her would score a '1.' Five percent of Nicaraguan women think that a woman should not deny her husband sex even if he beats her.

c) A response that indicates that a woman should not have to endure physical abuse, even to keep her family together, would score a '0.' A response that indicates the belief that a woman must endure physical abuse for the sake of her family would score a one ('1'). In Nicaragua, the overwhelming majority of women (94 percent) believe that a woman should not endure physical abuse to keep the family together.

The scores for the three indicators of tolerance of violence are summed for each woman, and each respondent is assigned the resulting score of 0, 1, 2, or 3. A woman whose score sums to zero has the least tolerance for violence, while those who score between two and three have the highest tolerance for abuse. These scores are then averaged together, with each cluster being assigned the resulting value for the cluster-level variable indicating community-level support for domestic violence. The community-level value that is given to each woman does exclude her own value.

Results

Background characteristics

Tables 1a and 1b contain the univariate descriptions of the independent variables selected for this analysis: Table 1a describes the characteristics of the women and their husbands (as reported by the women), while Table 1b describes the characteristics of the family and the community.

Men (Table 1a): The male partners of the women in this sample are likely to have at least primary education; 34 percent of husbands have secondary or higher education. The most common type of occupation held by these men is service or skilled manual (38 percent), with agricultural work next most common (28 percent). Fifty-four percent of husbands never get drunk, while 31 percent get drunk sometimes, and 15 percent are frequently inebriated.

Women (Table 1a): Women in this sample are distributed in an inverted U-shape, such that there are about 8 percent of women in the oldest and the youngest age groups, while the largest proportion of women (20 percent) fall in the 30-34 age group. Twenty-five percent of these women were married before the age of fifteen; 83 percent of the sample was married before they were out of their teen years. Only 14 percent of women married for the first time between the ages of 20-24, and 3 percent of women entered a union when they were 25 years or older. Just under half of the sample was not working at the time of the survey; 29 percent of women worked in unskilled manual jobs, while 15 percent of women worked in the professional category. Only 4 percent of women did not have any children; the remaining women were approximately evenly distributed by number of children: 29 percent of women had one to two children, 33 percent of women had three to four children, and 34 percent of women had five or more children. Women's education levels reflected those of men. Thirty-two percent of women reported that their father had hit their mother, while another 8 percent couldn't be sure whether or not their father had been violent. A slight majority of the sample had only ever been in one union, while 45 percent of women had been in two or more unions.

Family (Table 1b): The large majority of women report that they do have the support of their natal families (78 percent). About the same proportions of women live in non-nuclear and nuclear households (about 45 percent); 11 percent of women head a household in which there is no male partner. Twenty-seven percent of women in the sample are 0-4 years younger than their husbands, while 26 percent of women are widowed, divorced, or separated. Sixteen percent of women are older than their husbands, while 15 percent of women are more than ten years younger than their husbands. Among these women, all of whom have experienced spousal violence, 44 percent have the final say on making household purchases, whereas 29 percent of women decide expenditures with their partners, and in 22 percent of the cases, the partner decides alone how money will be spent. In terms of deciding about contraceptive use, 26 percent of women say that they decide the issue with their husbands, while 27 percent of women say that they decide about contraception on their own. For a large proportion of women (38 percent), the question on contraceptive decisionmaking was not applicable.

Community (Table 1b): This sample is more urban, with 66 percent of women living in urban areas. Most women agree that there is no instance in which domestic violence can be justified (82 percent), but the remainder justify some degree domestic violence.

Cessation of violence – bivariate analysis

Tables 2a and 2b present the results of the bivariate analysis; only significant relationships will be discussed here.

Men (Table 2a): Sixty percent of women whose husbands have no education report that violence has subsided; approximately 55 percent of women whose husbands have a primary or secondary education report an end to violence. Among women who report that they do not know their husband's educational level, 68 percent report that they did not experience violence in the past year. Women with partners who have the least education or who have an unknown level of education are more likely to report a cessation of violence. Drunkenness shows itself to be a highly significant variable (p = 0.000): women who report a hiatus in their experience of violence are significantly more likely to have husbands who never come home drunk (66 percent). Among those who report that they are experiencing continuing violence, 64 percent report that their husbands come home drunk frequently.

Women (Table 2a): There is a strong relationship (p = 0.000) between a woman's current age and an experience of cessation of violence, with women in the youngest age group being least likely to report an end to violence (31.3 percent), and women in the oldest age group being most likely to report a cessation of violence (77.7 percent). This monotonic increase in women reporting cessation of violence with increase in age may be attributable to the increase in social status that women accrue with age and motherhood. It may also reflect a mellowing of her male partner's behavior over time. Another consideration to keep in mind is that women at the youngest ages have had less time to experience a cessation of violence than women at the oldest ages (the difference between initial exposure to domestic violence and the time at which the data were collected is shortest for the youngest women), and thus would be less likely to report such a cessation.

A woman's occupation is highly significantly associated with a cessation of violence, once it has begun (p = 0.001). Women in the professional/technical/managerial/sale/clerical occupations are the most likely to report a cessation of violence (62.6 percent), while women in agriculture and women who do not work at all are the least likely to experience an end to violence (49.4 percent and 52.3 percent, respectively). Women in services/skilled manual occupations (59.2 percent) and women in unskilled manual occupations (59.8 percent) differ little from women in the professional, etc. occupations in their likelihood of escaping violence.

Although in the analysis of the risk factors for the experience of violence in Nicaragua (see Appendix A), the more children a woman had, the more likely she was to report

having ever experienced violence, we find in this analysis that increased parity is significantly associated with a *cessation* of violence ($p = 0.000$).

Women whose father ever hit their mother are somewhat less likely to report a cessation of violence than women whose fathers were not abusive (52.9 percent as compared to 58.3 percent, respectively; $p = 0.040$). Women who report having been in two or more unions are significantly more likely to report a cessation of violence in the past year than those who have been in only one union (64 percent as compared to 50 percent, respectively).

Family (Table 2b): The relationship between household wealth and cessation of violence is statistically significant ($p = 0.041$), but difficult to interpret. The biggest difference in experiencing a cessation of violence by wealth exists between the wealthiest group (61.3 percent) and next-wealthiest group (51.8 percent), with the poorest through the middle quintiles averaging 56 percent of women experiencing an end to violence. The relationship is not unidirectional from poorest to richest, nor is it u-shaped as other analyses have shown (Johnson 2003).

Women who report that they have the support of their natal families are somewhat more likely to experience a cessation of violence once it has begun. Fifty-eight percent of women with family support report that they have not experienced violence in the past year, while 52 percent of women who say that they do not have family support also report a cessation of violence in the past year.

Women who decide about money matters *with* their partners are the most likely to report a cessation in violence in the past year (60.7 percent), while women who make money decisions in the household independently are somewhat less likely to report a cessation of violence (57.7 percent), though this difference is unlikely to be statistically significantly different. When a woman's partner decides alone, women are the least likely to report a halt in the violence (47.5 percent). Interestingly, the group of women for whom family planning is not a viable topic for discussion with their husbands is the most likely to report that violence has stopped for them in the past year (67 percent). The group of women who report that they decide together with their husbands about contraception are the next most likely to report a cessation of violence in the past year (55.6 percent), and when either the male or female partner makes the decisions about contraceptive use alone, they are the least likely to report a cessation of violence (about 44 percent).

Family structure is highly significant in its relationship to cessation of violence in the past year; however, this is likely due to the fact that the variable includes the category of woman-headed household (no men in household), which is the group of women who are most likely to report a cessation in violence in the past year (68.3 percent). Women living in nuclear households are the least likely to report a cessation in violence over the past year (52.5 percent), while women living in extended families fall between these two groups, with 57 percent reporting no violence in the past year.

The relationship between interspousal age difference and cessation of violence is

significant, but again, it may be the influence of one category that is primarily driving the significance of this variable: those most likely to have not experienced violence in the past year are those women who no longer have a spouse or partner – 66.9 percent of these women report no violence in the past year. Among women who are still with their partners, it is interesting that women who are older than their husbands, while the most likely to report having experienced violence (see Appendix A), are also the most likely of those currently in union to report a cessation of violence (59.5 percent). Wives who are 0-4 years younger, 5-9 years younger, and 15 or more years younger than their partners are about equally likely to report a cessation in violence over the past year (about 50 percent), while women who are 10-14 years younger than their husbands are somewhat and inexplicably more likely to report a cessation in violence (56.2 percent).

Community (Table 2b): The relationship between community attitudes toward violence and cessation of violence is significant, although not in the expected direction, in that women who live in communities that accept some domestic violence are more likely to experience a cessation of violence than either women who live in communities where violence is not at all acceptable or in communities where it is very acceptable on average.

Multivariate results.

Model 1. In the first model, I include only woman-level variables as predictors of whether or not a woman has experienced a cessation in domestic violence over the past year. A woman's current age is an extremely strong predictor for whether or not she has experienced a cessation in violence. The youngest women are the least likely to have experienced a hiatus of violent behavior while the oldest women are twelve times more likely than the youngest to report that violence has ceased. The relationship between age and cessation of violence is unidirectional and monotonic, with every age category being highly significantly different from the reference category, 15-19 year-olds; the degree to which incremental increases in age translate to reductions in violence is great.

Woman's age at first marriage, while not significant in the bivariate, shows up as highly significant in the logistic analysis, with women who marry at later ages significantly less likely than those who marry young to report a cessation in violence over the past year (for those who marry at age 20-24 or older, OR = 0.598; $p < 0.005$). These results may be a function of exposure: a woman who marries her husband late and then experiences abuse has less opportunity to experience a cessation than a woman of the same age who married much earlier.

The number of children a woman has is also somewhat significant in this model, indicating that having fewer children makes it more likely for women to get out of a violent relationship. Women who have been in 2 or more unions are 50 percent more likely to experience a cessation of violence. The other variables of occupation, father's abuse of mother, and respondent's level of education are not significant in this model.

Model 2. The second model adds in the man-level variables. As drunkenness is a highly significant predictor of domestic violence, so is it a highly significant predictor of

cessation of violence ($p < 0.005$). Women whose partners are drunk frequently are 70 percent less likely than women whose husbands don't get drunk to experience a cessation of violence; women whose partners come home drunk only occasionally are still significantly less likely to experience a cessation of violence than those with husbands that don't get drunk. Neither partner's education nor partner's occupation has a significant relationship to the cessation of domestic violence.

Model 3. The third model adds in family-level variables. Only three of the family-level variables are significant in this analysis; interspousal age difference, family structure, the formality of the union, the wealth of the household, and whether or not the woman is currently in a union are all non-significant.

Women who report that they have the support of their natal family are about 40 percent more likely than those who do not have familial support to experience a cessation of violence. Decision-making variables are also important indicators of the quality of the relationship between the partners. With regard to spending money, when couples decide together how they will spend their money, women are the most likely to report a cessation of violence. When one partner or the other decides money matters on their own, women are 30 percent less likely to experience a cessation of violence than if they were to decide together. Similar results prevail for decision-making about contraception.

Model 4. In the fourth model, the two community-level variables are added: residence and community attitudes toward domestic violence. However, neither of these variables are significant factors in determining whether or not women will experience a cessation of violence, once they have had a violent experience with their husband or partner.

Model 5. In the fifth model, the two interaction variables are added. Both of these interaction variables are significantly associated with the likelihood of a woman experiencing a cessation of violence. The number of children variable becomes insignificant with the addition of these interaction variables, suggesting that the negative impact of children on cessation of violence is limited to certain situations. Having more children increases women's vulnerability in informal unions more than in formal unions. Similarly, having more children is less disempowering for women from wealthier households than those from poorer households.

Discussion and conclusions.

The variables that remain significant in the final, full model for Nicaragua that has as its dependent variable whether or not a woman has experienced a cessation of domestic violence include the following: a woman's current age, the age at which she married, the number of unions she's been in, and her occupation (woman-level variables), the frequency with which a husband comes home drunk (man-level variable), and whether the woman has the support of her family, decision-making about money matters and decision-making about contraceptive use (household-level variables). While neither of the community-level variables was significant, the fact that the interaction variables were significant lends support to the idea that it is interactivity among social strata that set the

context in which a woman may or may not experience domestic violence, and whether she may or may not escape that violence once it has begun.

The results from this analysis paint a picture that differs from the results of the analysis of risk factors for women's experience of violence in the past year (see Appendix A). In the analysis of whether or not a woman has experienced violence in the past year, we find that *both* women's *and* men's characteristics matter, as does urban or rural residence and experience of parental domestic violence. Influences on the likelihood of experience of violence are many and originate from various locations on multiple social levels. The significant variables from the analysis of violence in the past year are understood to relate to women's empowerment directly as well as indirectly.

In contrast, the present analysis of whether or not a woman has experienced a cessation of violence indicates that what matters for cessation seems to be those variables that relate directly to the woman, and those that *directly* either stifle or support a woman's autonomy, or are indicators of that autonomy, such as having been able to leave one relationship and embark on another. Men's demographic characteristics don't matter, and neither do things like having a family history of violence or living in an urban or rural area. Instead, the characteristics of the women are what matter most, and the degree to which the women are immediately empowered: if they have a white-collar job, if they have family support, if their husband is generally sober, if they participate in important household decisionmaking, if the father of their children is a legal husband, if the household in which they live with their children is not poor – these are the characteristics of women who have a degree of social and economic autonomy and are thus empowered to negotiate an end to domestic violence in their homes once it has begun.

These findings indicate that if we strengthen women's ability to act in their own interests, the woman herself can be empowered to find a way out of violence.

References:

Abbott, Pamela, and Emma Williamson. 1999. Women, health, and domestic violence. *Journal of Gender Studies* 8 (1): 83-102.

Bronfenbrenner, Urie. 1977. Toward an experimental ecology of human development. *American Psychologist* 32 513-531.

Brownridge, Douglas A. and Shiva S. Halli. 2001. Marital status as a differential factor in Canadian women's coping with partner violence. *Journal of Comparative Family Studies* 32 (1): 117-125.

Cain, Mead T. 1984. *Women's status and fertility in developing countries: Son preference and economic security.* Working Paper No. 110. New York: The Population Council Center for Policy Studies.

Caldwell, J.H., J.C. Reddy and Pat Caldwell. 1983. Causes of marriage change in South India. *Population Studies* 37 (3): 343-361.

Caldwell, John C. 1986. Routes to low mortality in poor countries. *Population and Development Review* 12 171-220.

Campbell, Jacquelyn C., and Linda A. Lewandowski. 1997. Mental and physical health effects of intimate partner violence on women and children. *Anger, Aggression, and Violence* 20 (2): 353.

Casterline, J.B., L. Williams and P. McDonald. 1986. The age difference between spouses: variations among developing countries. *Population Studies*, 40(3): 353-374.

DeKeseredy, Walter S., and Martin D. Schwartz. 1998. Measuring the extent of woman abuse in intimate heterosexual relationships: A critique of the conflict tactics scales. U.S. Department of Justice Violence Against Women Grants Office Electronic Resources (refereed publication) http://www.vaw.umn.edu/reseasrch.asp

Diop-Sidibé, Nafissatou. 2001. *Domestic violence against women in Egypt: Risk factors and health outcomes of wife beating*. Doctoral dissertation, Johns Hopkins School of Public Health. Baltimore, MD

Ellsberg, Mary Carroll, Heise, L., Pena, R., Agurto, S., and Winkvist, A. 2001. Researching violence against women: Methodological and ethical considerations. *Studies in Family Planning*, 32(1): 1-16.

Ellsberg, Mary Carroll. 2000. *Candies in Hell: Research and Action on Domestic Violence Against Women in Nicaragua*. Umea University, Sweden.

Fernandez, Marilyn. 1997. Domestic violence by extended family members in India.

Journal of Interpersonal Violence 12 (3): 433

Filmer, Deon, and Lant Pritchett. 2001. Estimating wealth effects without expenditure data – or tears: An application to educational enrollments in states of India. *Demography*, 38(1): 115-132.

Gwatkin, Davidson R., Shea Rutstein, Kiersten Johnson, Rohini P. Pande and Adam Wagstaff. 2000. Socio-economic differences in health, nutrition and population. Washington, D.C: Poverty Thematic Group of the World Bank.

Henning, K., H. Leitenberg, P. Coffey, T. Bennett, & M. Jankowski. 1997. Long-term psychological adjustment to witnessing interparental physical conflict during childhood. *Child Abuse and Neglect*, 21: 501-515.

Johnson, Kiersten. 2003. Dialectics of power and violence in the home: A comparative analysis of women's experience of domestic violence in Haïti and Nicaragua. Doctoral dissertation, University of Maryland. College Park, MD.

Johnson, Kiersten. 2002. Empowerment through employment? The relationship between women's work and domestic violence in Nicaragua. *Poster presented at the 2002 Population Association of America Annual Meeting*.

Kalmuss, Debra. 1984. The intergenerational transfer of marital aggression. *Journal of marriage and the family* 46 11-19.

Kishor, Sunita and Kiersten Johnson. 2004. *Domestic violence in nine developing countries: A comparative study*. ORC Macro International: Calverton, MD.

Kishor, Sunita and Kiersten Johnson. 2003. Women's health at the nexus of poverty and domestic violence: Evidence from the developing world. Paper presented at the 2003 Annual Meeting of the Population Association of America, Minneapolis, MN.

Kishor, Sunita. 2000. Empowerment of women in Egypt and links to the survival and health of their infants. in *Women's empowerment and demographic processes*, Harriet B. and Gita Sen Presser. New York: Oxford University Press

Koss, Mary P., and Lynette Heslet. 1992. "Somatic consequences of violence against women." *Arch Fam Med* 1 53-59.

Kunitz, Stephen J., Jerrold E. Levy, Joanne McCloskey, and K. Ruben Gabriel. 1998. Alcohol dependence and domestic violence as sequelae of abuse and conduct disorder in childhood. *Child Abuse and Neglect* 22 (11): 1079-1091.

Malhotra, Anju and Mark Mather. 1997. Do schooling and work empower women in developing countries? The case of Sri Lanka. *Sociological Forum* 12 (4): 599-630.

Mason, Karen Oppenheim. 1987. The impact of women's social position on fertility in developing countries. *Sociological Forum* 2 (4): 718-745.

Mason, Karen Oppenheim. 1986. The status of women: Conceptual and methodological issues in demographic studies. *Sociological Forum* 1 (2): 284-300.

McCluskey, Laura. 2001. *Here, our culture is hard: Stories of domestic violence from a Mayan community in Belize*. Austin, TX: University of Texas Press

Nelson, E. and Cathy Zimmerman. 1996. Household survey on domestic violence in Cambodia. Cambodia: Ministry of Women's Affairs, Project Against Domestic Violence.

Presser, Harriet B. 1975. Age differences between spouses. *American Behavioral Scientist* 19 (2): 190-205.

Rutstein, Shea. 1999. Wealth versus expenditure: Comparison between the DHS Wealth Index and household expenditures in four departments of Guatemala. *Unpublished.*

Rutstein, Shea, Kiersten Johnson and Davidson Gwatkin. 2000. Poverty, wealth inequality and its health and demographic effects. Paper presented at the Population Association of America Annual Meeting, March 23-25, 2000, Los Angeles, California.

Seltzer, Judith A. and Debra Kalmuss. 1988. Socialization and stress explanations for spousal abuse. *Social Forces* 67 (2): 473-491.

Stark, Evan, and Anne Flitcraft. 1996. *Women at risk: Domestic violence and women's health*. Thousand Oaks, CA: Sage Publications, Inc.

United Nations. 1995. Report of the Fourth World Conference on Women, Beijing 4-15 September 1995. United Nations, NY.

Wilson, Margo and Martin Daly. 1993. Spousal homicide risk and estrangement. *Violence and Victims*, 8(1): 3-16.

Wooldredge, John. Reconsidering domestic violence recidivism: Individual and contextual effects of court dispositions and stake in conformity in Hamilton County, Ohio, 1993-1998. ICPSR version. Cincinnati, OH: University of Cincinnati.

World Health Organization. 2001. Putting women first: Ethical and safety recommendations for research on domestic violence against women. Department of Gender and Women's Health. Geneva, Switzerland.

Table 1a. Percentage distribution of ever-in-union Nicaraguan women age 15-49 who have ever experienced violence from their spouse, by individual characteristics, Nicaragua DHS, 1997-98 (n=2570)

Characteristic	%
Partner's level of education	
none	20.8
primary	42.4
secondary +	33.7
unknown	3.1
Partner's occupation	
p-t-m, sales, cleric.	16.8
any agriculture	28.0
service/skilled man.	37.8
unskilled manual	17.4
Frequency of partner's drunkenness	
never gets drunk	53.7
occasionally drunk	31.3
frequently drunk	14.9
Woman's age	
15-19	7.6
20-24	14.2
25-29	18.5
30-34	20.3
35-39	17.8
40-44	13.2
45-49	8.4
Woman's age at marriage	
< 15	24.8
15-19	58.1
20-24	14.0
25+	3.1
Woman's occupation	
not working	45.8
prof-tech-mgr, cler.	14.8
any agricultural	3.3
service/skilled man.	7.0
unskilled manual	29.2
Number of children	
none	4.0
1-2	29.4
3-4	32.7
5+	33.9
Woman's education	
none	20.5
primary	46.1
secondary +	33.4
If father beat mother	
no	60.6
yes	31.7
don't know	7.7
Number of unions	
1	55.2
2 +	44.8

Table 1b. Percentage distribution of ever-in-union Nicaraguan women age 15-49 who have ever experienced violence from their spouse, by family and community characteristics, Nicaragua DHS, 1997-98 (n=2570).

Characteristic	%
Formality of union	
formal/married	29.1
informal/consensual	70.9
If woman has family support	
no	22.2
yes	77.8
Family structure	
non-nuclear	45.1
nuclear w/ couple	43.8
nuclear-female	11.1
Wealth status of household	
poorest quintile	17.0
second quintile	19.7
middle quintile	23.0
fourth quintile	22.0
wealthiest quintile	18.4
Interspousal age difference	
husband younger	15.5
wife 0-4 yrs younger	27.3
wife 5-9 yrs younger	16.4
wife 10-14 younger	9.1
wife 15+ younger	5.8
widow, div., sep.	25.9
Final say on making purchases	
both decide	28.6
woman decides	43.8
partner decides	21.6
other decides	5.9
Final say on contraceptive use	
both decide	25.9
woman decides	27.2
partner decides	7.8
other decides	0.7
situation n/a	38.3
Residence	
urban	66.1
rural	33.9
Community acceptance of d.v.	
d.v. is not ok	81.9
some d.v. ok	15.2
d.v. is ok	2.9

Table 2a. Bivariate (chi-square) analysis of ever-married Nicaraguan women age 15-4 who have ever experienced violence from their spouse, by experience of spousal violence in the past year, according to individual characteristics, Nicaragua DHS, 1997-98 (n=2570).
*p<0.05; **p<0.01; ***p<0.005

Characteristic	violence in the past year	no violence in the past year	total
All ever-abused women	**43.6**	**56.4**	**100.0**
Partner's level of education*			
none	39.9	60.1	100.0
primary	45.7	54.3	100.0
secondary +	44.5	55.5	100.0
unknown	30.8	69.2	100.0
Partner's occupation			
p-t-m, sales, cleric.	41.4	58.6	100.0
any agriculture	41.2	58.8	100.0
service/skilled man.	45.6	54.4	100.0
unskilled manual	45.1	54.9	100.0
Frequency of partner's drunkenness***			
never gets drunk	34.3	65.7	100.0
occasionally drunk	49.9	50.1	100.0
frequently drunk	63.7	36.3	100.0
Woman's age***			
15-19	68.7	31.3	100.0
20-24	59.1	40.9	100.0
25-29	47.7	52.3	100.0
30-34	42.8	57.2	100.0
35-39	33.6	66.4	100.0
40-44	34.8	65.2	100.0
45-49	22.3	77.7	100.0
Woman's age at marriage			
< 15	42.0	58.0	100.0
15-19	44.7	55.3	100.0
20-24	43.2	56.8	100.0
25+	37.0	63.0	100.0
Woman's occupation***			
not working	47.7	52.3	100.0
prof-tech-mgr, cler.	37.4	62.6	100.0
any agricultural	50.6	49.4	100.0
service/skilled man.	40.8	59.2	100.0
unskilled manual	40.2	59.8	100.0
Number of children***			
none	60.8	39.2	100.0
1-2	49.8	50.2	100.0
3-4	42.7	57.3	100.0
5+	37.1	62.9	100.0
Woman's education			
none	41.9	58.1	100.0
primary	42.7	57.3	100.0
secondary +	46.0	54.0	100.0
If father beat mother*			
no	47.1	52.9	100.0
yes	41.7	58.3	100.0
don't know	43.8	56.2	100.0
Number of unions***			
1	50.0	50.0	100.0
2 +	35.7	64.3	100.0

Table 2b. Bivariate (chi-square) analysis of ever-married Nicaraguan women age 15-4 who have ever experienced violence from their spouse, by experience of spousal violence in the past year, according to family and community characteristics, Nicaragua DHS, 1997-98 (n=2570).
*p<0.05; **p<0.01; ***p<0.005

Characteristic	violence in the past year	no violence in the past year	total
All ever-abused women	**43.6**	**56.4**	**100.0**
Formality of union			
formal/married	42.1	57.9	100.0
informal/consensual	44.2	55.8	100.0
If woman has family support*			
no	47.4	52.6	100.0
yes	42.5	57.5	100.0
Family structure***			
non-nuclear	42.8	57.2	100.0
nuclear w/ couple	47.5	52.5	100.0
nuclear-female	31.7	68.3	100.0
Wealth status of household*			
poorest quintile	43.8	56.2	100.0
second quintile	42.3	57.7	100.0
middle quintile	44.1	55.9	100.0
fourth quintile	48.2	51.8	100.0
wealthiest quintile	38.7	61.3	100.0
Interspousal age difference***			
husband younger	40.5	59.5	100.0
wife 0-4 yrs younger	50.2	49.8	100.0
wife 5-9 yrs younger	49.6	50.4	100.0
wife 10-14 younger	43.8	56.2	100.0
wife 15+ younger	50.3	49.7	100.0
widow, div., sep.	33.1	66.9	100.0
Final say on making purchases***			
both decide	39.3	60.7	100.0
woman decides	42.3	57.7	100.0
partner decides	52.5	47.5	100.0
other decides	41.8	58.2	100.0
Final say on contraceptive use***			
both decide	44.4	55.6	100.0
woman decides	54.7	45.3	100.0
partner decides	56.7	43.3	100.0
other decides	21.1	78.9	100.0
situation n/a	33.0	67.0	100.0
Residence			
urban	44.5	55.5	100.0
rural	41.9	58.1	100.0
Community acceptance of d.v.			
d.v. is not ok	44.6	55.4	100.0
some d.v. ok	37.9	62.1	100.0
d.v. is ok	45.9	54.1	100.0

Table 3. Odds ratios from binomial logistic regressions showing the likelihood that a woman who has ever experienced domestic violence has experienced a cessation of violence in the past year, among ever-married women, controlling for selected characteristics, 1997-98 Nicaragua DHS
*p<0.05; **p<0.01; ***p<0.005 ® reference category

Characteristic	model 1 Exp(B)	model 2 Exp(B)	model 3 Exp(B)	model 4 Exp(B)	full model Exp(B)
Woman's curr. Age	***	***	***	***	***
15-19 ®					
20-24	1.921***	1.982***	2.044***	2.082***	2.274***
25-29	3.027***	3.413***	3.935***	4.047***	4.723***
30-34	3.613***	3.788***	4.432***	4.560***	5.390***
35-39	5.975***	6.689***	7.907***	8.099***	9.515***
40-44	5.958***	6.374***	7.073***	7.274***	8.230***
45-49	11.336***	11.135***	12.097***	12.534***	13.885***
Age at marriage	***	**	**	**	**
< 15 ®					
15-19	0.761**	0.762**	0.762**	0.763**	0.762**
20-24	0.584***	0.603***	0.593***	0.528***	0.598***
25+	0.651	0.647	0.608	0.529*	0.615
Woman's occupation	ns	ns	*	*	*
not employed ®					
white collar occ.s	1.307	0.095	1.314	1.338	1.337
any agricultural	0.766	0.136	0.664	0.659	0.653
services/skilled manual	1.730	0.515	1.189	1.208	1.210
unskilled manual	1.166	0.203	1.201	1.231	1.233
If father beat mother	ns	ns	ns	ns	ns
Number of children	0.940**	0.939**	0.935**	0.934**	0.973
Woman's education	ns	ns	ns	ns	ns
Number of unions: one ®	1.501***	1.521***	1.615***	1.623***	1.637***
Partner's education		ns	ns	ns	ns
Freq. partner is drunk		***	***	***	***
never drunk ®					
sometimes drunk		0.555***	0.565***	0.566***	0.571***
frequently drunk		0.303***	0.333***	0.331***	0.332***
Partner's occupation		ns	ns	ns	ns
Partners' age differ.			ns	ns	ns
Family structure			ns	ns	ns
Formal union: yes ®			ns	ns	ns
Family support: no ®			1.431***	1.418***	1.425***
Decide about money			**	*	*
decide together ®					
woman decides			0.725**	0.735**	0.729**
partner decides			0.737**	0.736*	0.732***
other decides			1.010	0.911	1.000
Decide about f.p. use			***	***	***
decide together ®					
woman decides			0.681***	0.685***	0.690***
partner decides			0.785	0.782	0.772
other decides			1.548	1.583	1.595
not up for discussion			1.412*	1.408*	1.413*
Wealth rank of HH			ns	ns	ns
Residence: urban ®				ns	ns
Comm. attitude d.v.				ns	ns
Number of kids x wealth					1.069*
Number of kids x union type					0.822**
Constant	1.606***	1.339*	1.425	1.326	1.328
-2LL	3224.957	3112.832	3042.839	3039.507	3031.792

APPENDIX A. Odds ratios from binomial logistic regressions showing the likelihood that a woman has experienced domestic violence in the year preceding the survey, among ever-married women, controlling for selected characteristics, 1997-98 Nicaragua DHS
*p<0.05; **p<0.01; ***p<0.005 ® reference category

Characteristic	model 1 Exp(B)	model 2 Exp(B)	model 3 Exp(B)	model 4 Exp(B)	full model Exp(B)
Woman's curr. age	***	***	***	***	***
15-19 ®	-	-	-	-	-
20-24	0.807	0.766*	0.735*	0.733**	0.675***
25-29	0.663***	0.592***	0.550***	0.547***	0.469***
30-34	0.622***	0.560***	0.503***	0.498***	0.419***
35-39	0.450***	0.397***	0.337***	0.336***	0.281***
40-44	0.453***	0.406***	0.349***	0.345***	0.298***
45-49	0.260***	0.241***	0.208***	0.205***	0.180***
Age at marriage	*	ns	ns	ns	ns
< 15 ®	-	-	-	-	-
15-19	0.931				
20-24	0.757**				
25+	0.574**				
Woman's occupation	***	***	*	*	*
not employed ®	-	-	-	-	-
white collar occ.s	1.143	1.175	1.128	1.109	1.114
any agricultural	1.512**	1.669***	1.668***	1.689***	1.703***
services/skilled manual	1.497**	1.430*	1.244	1.216	1.201
unskilled manual	1.380***	1.303***	1.078	1.049	1.046
If father beat mother	***	***	***	***	***
mother not beaten ®	-	-	-	-	-
mother beaten	1.513***	1.505***	1.419***	1.415***	1.411***
don't know/missing	1.182	1.238	1.170	1.165	1.177
Number of children	1.081***	1.088***	1.097***	1.098***	ns
Woman's education	ns	ns	ns	ns	ns
Partner's education		ns	ns	*	*
no education ®		-	-	-	-
primary				1.012	1.005
secondary or higher				0.817	0.817
don't know				0.610	0.604*
Freq. partner is drunk		***	***	***	***
never drunk ®		-	-	-	-
sometimes drunk		1.719***	2.021***	2.017***	2.009***
frequently drunk		3.870***	4.015***	4.018***	3.986***
Partner's occupation		***	***	***	***
white-collar occ.s ®		-	-	-	-
any agriculture		0.772*	0.834	0.874	0.880
services, skill. manual		1.343**	1.261*	1.261*	1.263*
unskilled manual		1.158	1.173	1.173	1.173
Partners' age differ.			**	**	**
husband is younger ®			-	-	-
wife 0-4 yrs < husb			0.879	0.883	0.886
wife 5-9 yrs < husb			0.794	0.797	0.802
wife 10-14 yrs < husb			0.958	0.959	0.968
wife 15+ yrs < husb			0.767	0.770	0.783
div., widow., sep.			1.532**	1.521**	1.528**
Family structure			ns	ns	ns
Formal union: yes ®			1.317***	1.313***	ns
Family support: no ®			0.538***	0.546***	0.550***
Decide about money			***	***	***
decide together ®			-	-	-
woman decides			1.633***	1.621***	1.624***
partner decides			1.622***	1.624***	1.628***
other decides			1.469*	1.468*	1.500*
Decide about f.p. use			***	***	***
decide together ®			-	-	-
woman decides			1.991***	1.989***	1.993***
partner decides			1.477***	1.490***	1.496***
other decides			0.733	0.725	0.738
not up for discussion			1.033	1.041	1.052
Wealth rank of hh			ns	ns	ns
Residence: urban ®				0.789**	0.794**
Comm. attitude d.v.				ns	ns
Number of kids x wealth					ns
Number of kids x union type					1.144**
Constant	0.109***	0.140***	0.142***	0.139***	0.121***
	-2LL	-2LL	-2LL	-2LL	-2LL
	6228.492	5989.815	5749.359	5743.047	5743.047