

**Marriage as a protective factor against intimate partner violence suffered by women.
Exploring mechanisms.**

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Abstract

Research has consistently found that married women experienced less intimate partner violence (IPV) than cohabiting ones. However, most existing studies focus on the incidence of IPV as a binary indicator, while the severity of that exposure or the different types of violence have been largely ignored. This paper begins to address these issues by a multivariate approach, for some Latin American countries. The study reports that married women suffered less violence than cohabiting women for each singular type of violence, even after controlling by education, age, locality, wealth, and personal violence history. This paper proposes a novel mechanism that helps to explain these findings: marriage would provide a framework that fosters investment in the quality of the couple's relationship, thus preventing IPV. The estimates on couple's investments support these predictions.

Keywords: intimate partner violence; domestic violence; marriage; cohabitation; Latin America; women

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Introduction

Previous literature suggests that married women experienced less IPV than cohabiting ones (e.g., Abramsky et al. 2011, Wong et al. 2016). However, several existing studies focus on the incidence of IPV as a binary indicator (e.g., Bott et al 2019), while the severity of that exposure or the different types of violence have been largely ignored. Also, a subject that had so far remained nearly missing from previous literature is the mechanism behind the complex relationship between marital status and IPV.

This research paper begins to address these issues, for Latin American countries. First, the study examines two measures of IPV hardship: incidence and severity. Second, the study documents the differences in IPV incidence and severity across groups defined by education and wealth. Third, the study employs multivariate regressions to assess the robustness of the association between IPV and marital status.

Researcher explore a novel mechanism that may help to explain the protective role of marriage against intimate partner violence. The study argues that the protective role may be driven by the fact that marriage and cohabitation have, over the years, become relatively similar in several ways *except* for the investment in the quality of the couple's relationship. Risk-averse people – i.e. those reluctant to take any risk – save not only to smooth consumption but also to keep a buffer stock if future outcomes are unfavorable. Marriage provides a framework that seems to foster investment: married couples are faced with greater restrictions to marriage dissolution. A married couple completely shares the risk and creates a kind of family insurance, which decreases the need for precautionary saving, so they show greater investment rates. The time devoted to helping the partner, caring for, educating, and raising their children represents investments in time that are tremendously worthwhile in terms of keeping a good relationship within the couple. Employing a nationally representative survey about time use, our findings shed light on the role of investments in the couple relationship quality for preventing IPV.

The rest of this research paper is organized as follows. Section II provides a background of the research. Section III describes the characteristics of the data. Section IV lays out the details of the methodology. Section V presents the main results. Section VI explores the mechanisms behind the findings. Section VII concludes and discusses the results.

Background

Latin America is the only region in the world where lethal violence increased in the first decade of the 21st. century and its citizens have identified crime and violence as their main concerns (Muggah and Aguirre Tobón 2018). In particular, intimate partner violence (IPV) against women is widespread in every country in this region (Bott et al. 2019).

IPV is defined by the World Health Organization (WHO, 2021) as any act of violence committed by a male intimate partner or ex-partner whose consequence is either physical, sexual, or psychological harm directed towards females. The consequences of IPV are well recognized (Bhargava et al. 2011; Clare et al. 2021), including acute injuries, depression, anxiety, being suicidal, and other psychological distress; adverse pregnancy outcomes; and a wide range of chronic health problems. These features are a widespread call for more comprehensive preparation for health care professionals involved in identifying and addressing IPV, as Daphne Tsapalas et al. (2021) observe in their literature review on gender-based violence in Latin America and the Caribbean.

Violence against women also poses intergenerational consequences: when women experience violence, their children suffer (Street et al. 2003). Growing evidence suggests that when children witness or suffer violence directly, they may be at increased risk of becoming aggressors or victims in adulthood (Bott et al. 2012; Li et al. 2019; Meyer et al. 2021; Shakoor et al. 2022). “In addition to the human costs, research shows that violence against women drains health and justice sector budgets with expenditures for treating survivors and prosecuting perpetrators. Costs also result from productivity losses and absenteeism. Studies from the Inter-American Development Bank estimated that the impact of IPV on gross domestic product from women’s lower earnings alone was between 1.6% in Nicaragua and 2.0% in Chile” (Bott et al. 2012, p. vii).

Cohabitation unions worldwide have experienced a substantial increase and are particularly common in Latin America (World Family Map 2019). Considering this trend, the association between family structure and IPV should be re-examined.

Men compared to women were more likely to initiate violent acts and use violence as a way of inducing fear, domination, and control (Ubillós Landa et al., 2020). Empirical evidence has shown that married women experienced less IPV than cohabiting ones. For instance, Wong et al. (2016) study 5-year medical records from emergency departments of two major public hospitals in

Hong Kong and find that cohabiting women were approximately 2.1 times more likely than married women to present physical injuries. In the same vein, the results of Abramsky et al. (2011) –employing data from ten countries- show that married offered protection for women against IPV, while cohabitation increased the risk of IPV. Capaldi et al. (2012) provide a systematic review of risk factors for IPV. First, they find that relationship factors (e.g., married, cohabiting, separated) overall are understudied compared to contextual and developmental characteristics and behaviors of partners. Second, their results show that the relationship status is related to IPV, with married individuals being at the lowest risk. Though selection effects may play a powerful role (women are less likely to marry violent men), scholars suggest that greater investments of spouses in each other within marriage also play a role (Wilcox et al. 2005). Our study begins to address these issues for some Latin American countries.

Data

To assess the relationship between intimate partner violence suffered by women and the type of couple (married or cohabiting) in some Latin American countries, the study exploits firstly the Demographic and Health Surveys (DHS). DHS are nationally-representative household surveys that provide data for women aged 15-49 years old, for a wide range of indicators in the areas of population, health, and nutrition. Questionnaire and questionnaire modules have changed during the years, thus forming different DHS phases –there are seven phases now.

Sample selection

Not all countries report a survey in each phase, and not all phases include data on IPV. For the present study, we select the phase shared by most Latin American Countries that contains a questionnaire module on violence. Thus, the study finally employs DHS data, phase 5, from Bolivia, Colombia, Honduras, and Peru.

Since the dynamics of forming new relationships may introduce selection effects (Kenney and McLanahan 2006), the study restricts the sample to women that live with a partner or husband for at most 12 months, and that have experienced only the present union (about 48,000 individuals). Phase 5 was applied in Bolivia in 2008, in Colombia in 2005, in Honduras in 2005-2006, and in Peru in 2007-2008. DHS surveys also provide violence data from Haiti and the Dominican Republic in phase 5, but they differ in the criteria of selecting the surveyed women and report considerably fewer observations, so these two countries are not included in the present study.

Descriptive statistics

Table 1 shows the summary statistics of individual-level data from DHS on answers to questions on violence and socio-demographic situation. Since the survey includes eight questions about different types of severe physical violence, four about less severe physical violence, five about sexual violence, and thirty about emotional violence, Table 1 reports only a global dummy variable that takes the value 1 in case of any kind of violence, and another four dummies variables that indicate the presence of severe, less severe, sexual and emotional violence.

Insert Table 1

More than half of the sample has experienced some kind of violence in the last 12 months. The most prevalent type of violence is emotional: fifty percent of the sample report that have suffered emotional IPV. Four out of 100 and seven out of 100 women experienced severe IPV and sexual IPV respectively. Twenty-six percent of women suffered some kind of less severe IPV. The respondents are 33 years old on average, have completed seven years of formal education, and have a partner that shows more education. Sixty-one percent of the surveyed women live in urban regions, and 44% report that their mother suffered IPV. DHS surveys provide a wealth index that takes values from 1 (poor household) to 5 (rich).

Figure 1 reports the violence suffered by women along with the distribution of wealth. For all the distribution, in every country and the pooled sample, cohabiting women suffered more IPV than married ones. The same pattern is observed in Figure 2. Along with all the distribution of education, cohabiting women suffered more IPV than married ones.

Insert Figures 1 and 2 here

Methodology

The study employs a quantitative approach. It starts by examining the statistical significance of the indicator of marriage on women's responses about violence. First, this research paper assesses the association between marriage and five violence indexes (any kind of violence, severe physical violence, less severe, sexual violence, and emotional) globally and country by country. Second, the robustness of the results is tested by including key controls one by one.

Third, the study examines the share of regressions that shows that the marriage indicator is a significant protective factor against violence at the 5% level, proceeding question by question and country by country. To capture the magnitude of the association, the study also examines how much additional explanatory power the marriage dummy (**a variable that takes the value 1 if the observation refers to a married woman**) brings to the regression, by comparing the simple R^2 statistic from running the specification in (1) to the R^2 statistic obtained when running the same regression without marriage dummy. For each question (or group of questions) on violence, we estimate the following specification:

$$(1) Q_{mi} = \alpha + \beta_m D_i + \gamma' X_i + \varepsilon_i$$

where i denotes a respondent, $m = 1, \dots, M$ indexes questions on violence, Q_{mi} is the individual answer to the question m under consideration, D_i is equal to one if respondent i forms a married couple, zero otherwise, and X_i is a vector of controls. The specification includes country-fixed effects in the case of pool estimates. Estimation is by least squares and using DHS sampling weights.

Results

Panel A of Table 2 shows the association between marriage and violence index, a dummy variable that takes the value 1 if the woman suffers any kind of IPV. This relationship is assessed by employing the whole sample, and country by country. The results show that marriage is associated with a lower incidence of self-reported violence, and the magnitude of the association varies between the countries. While in Bolivia, Colombia and Peru married women show a 10% lower incidence of self-reported violence in comparison with those that cohabit with their partner, in Honduras married women show a 30% lower incidence of self-reported violence in comparison with cohabiting women. These comparative magnitudes are similar in the case of the dummy sexual violence index (Panel D). Panel B and C report the negative association between marriage and severe and less severe violence. It is not significant in the case of Bolivia, but for Colombia, Honduras, and Peru the estimates show marriage as a significant protective factor for women against violence. All specifications control for the age and education of the woman, the education of the partner, the household wealth, and a dummy variable that takes value 1 if the woman reports that her father used to beat her mother. Controls also include a dummy urban variable that takes the value 1 if the woman lives in an

urban area. We conduct a wide range of extensions and robustness tests on this exercise (equation (1) without controls; a probit estimator instead of Least Squares; changed set of controls, etc.). Neither modification has a material effect on the inferences drawn above, or on the breakdown of the results by country, question category, or question type. For the sake of simplicity, these extensions are not reported. Results are available from the authors upon request.

Insert Table 2

Column (1) of Table 3 reports the estimates of the association between IPV and marriage. Marriage is associated with a lower probability of suffering violence in 6.5%, which means a 12% lower incidence in comparison with average violence suffered by women that are cohabitating (57%).

Robustness of results

In Columns (2) to (7) of Table 3, the study examines the robustness of the findings to the inclusion of controls, and dummies for countries and urban categories. We explore previous literature to select the controls. There has been a good deal of speculation. First, from a theory of power within the couple, those with less education and lower income are candidates to suffer greater violence (Kalokhe et al. 2018; Sanz-Barbero et al. 2019; Amegbor and Pascoe 2021, Nabaggala et al. 2021). So, education and income seem to be key variables to include in the specification of the regression. Second, older women are more likely to have experienced violence for a long time or to be in current violent relationships (Wilke and Vinton 2005). Thus, woman age is included as a control. Third, the social learning theory of violence suggests that girls who witness or experience violence may learn to expect violence in relationships and are therefore more likely to find themselves in a violent adult relationship (Cui et al. 2013; Gibbs et al. 2020; Lackey 2003; McNeal and Amato 1998). Hence, the study exploits that DHS surveys provide a question about the violence that the mother of the respondent may have suffered from her partner, and include this variable as a control. Fourth, community context is critical in understanding IPV. Pruitt (2008) assesses the difference that rurality makes to the occurrence, investigation, prosecution and judicial decision-making regarding this crime. So, the specification with controls included an urban dummy (**a variable that takes the value 1 if the observation refers to a woman living in an urban region or 0 otherwise**). Results are robust to these additional controls. Moreover, the magnitude of the negative association between marriage and violence has nearly no variation for all the specifications shown in Table 3.

Insert Table 3

Table 4 presents the overall share of regressions where marriage is significant at the 10% level, breaking down these results by country. Interesting findings emerge. The average share of questions for which marriage dummy is significant, across all countries, varies from 46% to 100%. Thus, marriage is an important determinant of responses to many questions across countries.

Insert table 4

Table 5 reports the results of a breakdown by question category. Though findings suggest that marriage matters a bit more for questions on less severe physical violence and emotional violence, all categories of violence show an important share of estimates with a significant marriage dummy. These findings suggest that the choice of questions is not very material to the issue of whether marriage association with self-reported violence is stable across question categories.

The explanatory power of the regressions is quite low. The average R^2 when excluding the marriage dummy is only around 2%, and when including the marriage dummy it rises about 0.2%. Thus, it is usually difficult to predict a person's response to violence questions using the most obvious observables, yet the addition of a marriage dummy does increase the explanatory power of the regression by about 10%.

Insert table 5

As a final robustness check, the study assesses if married women suffered less violence than cohabiting women for each singular type of violence. Table 6 reports that, for every type of violence, marriage is a significant protective factor for women. In no DHS question marriage is associated with more violence.

Insert table 6

Mechanisms

In the same vein as Lafortune and Low (2017), marriage provides a framework to contract over long-term investments. The source of differentiation here stems not from the *desire* to invest in the couple's relationship quality, but in the *ability* to insure such investments for the partner who makes them against marriage dissolution.

In a marital or cohabiting relationship, everything about the partner is of concern to the other, and hence little or nothing is off-limits for discussion and conflict. Consequently, there is an inherently high level of conflict in marriage and cohabiting (Stets and Straus 1989). But conflict does not necessarily lead to violence. One party may implicitly decide that the potential costs of violence cannot be risked. These costs may be greater for married than for cohabiting couples to the extent that married couples have a greater investment in the relationship.

Married couples have legal restrictions on their relationship that force them to act more cooperatively (Nordblom 2004). For a married couple, faced with greater legal restrictions and stronger social norms, cooperative models are likely to be time consistent, as solutions are self-enforcing. Married decisions are likely made cooperatively. Risk-averse people save not only to smooth consumption but also to keep a buffer stock if future outcomes are unfavorable (Nordblom 2004). Marriage provides a framework that seems to foster investment: married couples are faced with greater restrictions to marriage dissolution. Scott (2002) and Wickelgren (2009) view marriage as a commitment device, that encourages the parties to make efficiency-enhancing, couple-specific investments after marriage. Because of their altruistic feelings, cohabitants choose to share risk voluntarily, in contrast to married spouses who have legal restrictions forcing them to share risk. A married couple completely shares the risk and creates a kind of family insurance, which decreases the need for precautionary saving, so they show greater investment rates.

Investment in a good relationship

The time devoted to helping the partner, caring for, educating, and raising their children represents an enormous component of a society's investment in human capital. These investments in time are tremendously worthwhile in terms of keeping a good relationship within the couple, and their physical, emotional and intellectual development (Kalenkoski, Ribar, and Stratton 2005). However, the value and extent of these contributions within the couple in Latin

America have been hard to measure because of a lack of regular time-use data. One exception in the availability of time-use data in Latin America is Uruguay (Time-Use Survey, year 2013, National Institute of Statistics). Though DHS surveys do not include Uruguay, the National Institute of Statistics of this country issued also a survey on gender violence (National Survey on Prevalence of Gender Violence, year 2013, National Institute of Statistics), which is a nationally-representative household survey that provides data for women living in Uruguay, aged 15 or older, focused on urban populations (only cities with at least 5,000 inhabitants are considered for the survey). Interestingly, though the Uruguayan survey does not provide the rich list of variables about violence of DHS, Uruguay shows the same pattern in IPV. Table 7 reports that married women in Uruguay suffered less violence than cohabiting women for each type of violence, even after controlling by education, age, and personal violence history.

Insert Table 7

To explore the investments in the couple relationship quality, the study exploits the Uruguayan Time-Use Survey, (year 2013, National Institute of Statistics). For each question on time use, the following specification is estimated:

$$(2) Q_{mi} = \alpha + \beta_m D_i + \boldsymbol{\gamma}' \mathbf{X}_i + \varepsilon_i$$

where i denotes a respondent, $m = 1, \dots, M$ indexes questions on time use, Q_{mi} is the individual answer to the question m under consideration, D_i is equal to one if respondent i form a married couple, zero otherwise, and \mathbf{X}_i is a vector of controls. Estimation is by least squares and using sampling weights.

Table 8 reports that married people invest more time in household tasks in comparison to cohabiting individuals for nearly all the items. And these household tasks are deeply related to the quality of the couple's relationship (Kalenkoski, Ribar, and Stratton 2005). Hence, the results reported in Table 8 are in line with the predictions of the model of Nordblom (2004): married couples seem to act more cooperatively, investing more time in their relationship. This may help to explain the lower rate of violence that married women suffered in their relationships. This mechanism deserves more research.

Insert Table 8

Discussion

This research paper starts with observations on marriage, cohabitation, and intimate partner violence. The study uses cross-sectional data for five Latin-American countries to document that, for all countries considered marriage is associated with less IPV on women, even considering the women's education, age, wealth, and personal violence history. Also, results show that married couples seem to act more cooperatively, investing more time in their relationship than cohabitating couples. Anyway, due to the absent random assignment to marriage and cohabitation, it is key to bear in mind that unobservable factors may be influencing outcomes, and consider the extent of such selection effects or the extent to which marriage may be causally related to less IPV. To fully explore the relationships between marriage/cohabitation status, time investment in the couple relationship, and IPV, further research would need longitudinal data with large samples of entering couples, and frequent and consistent measures of time investment and IPV over time. Also, the researcher should bear in mind that interpersonal violence against women is a complex multidimensional construct that implies not only personal or situational factors (age, education, marriage or cohabiting, etc.) but also macrosocial and community factors that affect woman's risk of abuse (Dasgupta, 2019; Heise and Kotsadam, 2015).

Risk-averse people save not only to smooth consumption but also to keep a buffer stock if future outcomes are unfavorable. Marriage provides a framework that seems to foster investment: married couples face greater restrictions to marriage dissolution. A married couple completely shares the risk and creates a kind of family insurance, which decreases the need for precautionary saving and, hence, increases the investment rate of the couple. The time devoted to helping the partner, caring for, educating, and raising their children represents investments in time that are extremely worthwhile in terms of keeping a good couple relationship. Employing a nationally representative survey about time use, the paper documents how investment -in terms of time devoted to the care of the household and its members- is greater for married couples. This finding sheds light on the role of investments in relationship quality and encourages further research not only on *reactive* interventions targeted at distressed couples with greater relationship needs but also on services aimed at *preventing* conflicts within healthy couples.

Conclusions

Employing Demographic and Health Surveys (DHS) data from Bolivia, Colombia, Honduras, and Peru, this research paper examines not only the incidence of IPV but also the severity, an understudied feature in Latin America. The study employs multivariate regressions to assess the association between IPV hardship and marital status. First, results show that marriage is associated with a lower incidence of violence, and the magnitude of the association varies between the countries. While in Bolivia, Colombia and Peru married women show a 10% lower incidence of self-reported violence in comparison with those that cohabit with their partner, in Honduras married women show a 30% lower incidence of self-reported violence in comparison with cohabiting women. Second, the study includes a breakdown by question category on violence. Findings suggest that marriage matters a bit more for questions on less severe physical violence and emotional violence, but all categories of violence show an important share of estimates with a significant marriage dummy. These results suggest that the choice of questions is not very material to the issue of whether marriage association with a lower incidence of self-reported violence is stable across question categories. Third, breaking down questions on violence by country, marriage seems also to be an important determinant of responses to most questions across countries. Fourth, the study assesses if married women suffered less violence than cohabiting women for each singular type of violence. The findings suggest that for nearly every DHS question on IPV, marriage is associated with a lower incidence of IPV suffered by women. In no question, marriage is associated with more violence. All in all, estimates show marriage as a significant protective factor for women against violence, even after controlling by education, age, locality, wealth, and personal violence history.

Declaration of Conflicting Interests

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References

Amegbor, P. M., & Pascoe, L. (2021). Variations in emotional, sexual, and physical intimate partner violence among women in Uganda: a multilevel analysis. *Journal of interpersonal violence, 36*(15-16), NP7868-NP7898.

Abramsky, T., Watts, C. H., Garcia-Moreno, C., Devries, K., Kiss, L., Ellsberg, M., ... & Heise, L. (2011). What factors are associated with recent intimate partner violence? Findings from the WHO multi-country study on women's health and domestic violence. *BMC public health, 11*(1), 109.

Bhargava, R., Temkin, T. L., Fireman, B. H., Eaton, A., McCaw, B. R., Kotz, K. J., & Amaral, D. (2011). A predictive model to help identify intimate partner violence based on diagnoses and phone calls. *American journal of preventive medicine, 41*(2), 129-135.

Bott, S., Guedes, A., Ruiz-Celis, A. P., & Mendoza, J. A. (2019). Intimate partner violence in the Americas: a systematic review and reanalysis of national prevalence estimates. *Revista Panamericana de Salud Pública, 43*.

Bott, S., Guedes, A., Goodwin, M. M., & Mendoza, J. A. (2012). *Violence Against Women in Latin America and the Caribbean: A comparative analysis of population-based data from 12 countries*. Washington, DC: Pan American Health Organization

Capaldi, D. M., Knoble, N. B., Shortt, J. W., & Kim, H. K. (2012). A systematic review of risk factors for intimate partner violence. *Partner abuse, 3*(2), 231-280.

Clare, C. A., Velasquez, G., Martorell, G. M. M., Fernandez, D., Dinh, J., & Montague, A. (2021). Risk factors for male perpetration of intimate partner violence: A review. *Aggression and violent behavior, 56*, 101532.

Cui, M., Ueno, K., Gordon, M., & Fincham, F. D. (2013). The continuation of intimate partner violence from adolescence to young adulthood. *Journal of Marriage and Family, 75*(2), 300-313.

Dasgupta, S. (2019). Attitudes about wife-beating and incidence of domestic violence in India: An instrumental variables analysis. *Journal of Family and Economic Issues, 40*(4), 647-657.

Gibbs, A., Dunkle, K., Ramsoomar, L., Willan, S., Jama Shai, N., Chatterji, S., ... & Jewkes, R. (2020). New learnings on drivers of men's physical and/or sexual violence against their female partners, and women's experiences of this, and the implications for prevention interventions. *Global Health Action*, *13*(1), 1739845.

Heise, L. L., & Kotsadam, A. (2015). Cross-national and multilevel correlates of partner violence: an analysis of data from population-based surveys. *The Lancet Global Health*, *3*(6), e332-e340.

Kalenkoski, C. M., Ribar, D. C., & Stratton, L. S. (2005). Parental child care in single-parent, cohabiting, and married-couple families: Time-diary evidence from the United Kingdom. *American Economic Review*, *95*(2), 194-198.

Kalokhe, A. S., Iyer, S. R., Kolhe, A. R., Dhayarkar, S., Paranjape, A., Del Rio, C., ... & Sahay, S. (2018). Correlates of domestic violence experience among recently-married women residing in slums in Pune, India. *PloS one*, *13*(4), e0195152.

Kenney, C. T., & McLanahan, S. S. (2006). Why are cohabiting relationships more violent than marriages?. *Demography*, *43*(1), 127-140.

Lackey, C. (2003). Violent family heritage, the transition to adulthood, and later partner violence. *Journal of Family Issues*, *24*(1), 74-98.

Lafortune, J., & Low, C. (2017). Tying the double-knot: The role of assets in marriage commitment. *American Economic Review*, *107*(5), 163-67.

Li, S., Zhao, F., & Yu, G. (2019). Childhood maltreatment and intimate partner violence victimization: A meta-analysis. *Child Abuse & Neglect*, *88*, 212-224.

Meyer, S., Reeves, E., & Fitz-Gibbon, K. (2021). The intergenerational transmission of family violence: Mothers' perceptions of children's experiences and use of violence in the home. *Child & Family Social Work*, *26*(3), 476-484.

McNeal, C., & Amato, P. R. (1998). Parents' marital violence: Long-term consequences for children. *Journal of Family Issues*, *19*(2), 123-139.

Muggah, R., & Aguirre Tobón, K. (2018). *Citizen security in Latin America: Facts and Figures*. Igarapé Institute, Strategic Paper 33.

Nabagala, M. S., Reddy, T., & Manda, S. (2021). Effects of rural–urban residence and education on intimate partner violence among women in Sub-Saharan Africa: a meta-analysis of health survey data. *BMC women's health*, 21(1), 1-23.

Nordblom, K. (2004). Cohabitation and marriage in a risky world. *Review of Economics of the Household*, 2(3), 325-340.

Pruitt, L. R. (2008). Place matters: Domestic violence and rural Difference. *Wisconsin Journal of Law, Gender & Society*, 23; UC Davis Legal Studies Research Paper No. 149.

Sanz-Barbero, B., Barón, N., & Vives-Cases, C. (2019). Prevalence, associated factors and health impact of intimate partner violence against women in different life stages. *PLoS one*, 14(10), e0221049.

Scott, E. (2002). Marital commitment and the legal regulation of divorce. In A. Dnes & R. Rowthorn (Eds.), *The law and economics of marriage and divorce*. Cambridge: Cambridge University Press.

Shakoor, S., Theobald, D., & Farrington, D. P. (2022). Intergenerational continuity of intimate partner violence perpetration: an investigation of possible mechanisms. *Journal of Interpersonal Violence*, 37(7-8), NP5208-NP5227.

Stets, J. E., & Straus, M. A. (1989). The marriage license as a hitting license: A comparison of assaults in dating, cohabiting, and married couples. *Journal of Family Violence*, 4(2), 161-180.

Street, A., King, L. A., King, D. W., & Riggs, D. (2003). The associations among male-perpetrated partner violence, wives' psychological distress and children's behavior problems: A structural equation modeling analysis. *Journal of Comparative Family Studies*, 34(1), 23-40.

Tsapalas, D., Parker, M., Ferrer, L., & Bernales, M. (2021). Gender-based violence, perspectives in Latin America and the Caribbean. *Hispanic health care international*, 19(1), 23-37.

Ubillos Landa, S., Puente Martínez, A., González Castro, J. L., & Nieto González, S. (2020). You belong to me! Meta-analytic review of the use of male control and dominance against women in intimate partner violence. *Aggression and violent behavior, 52*, 101392.

Wickelgren, A. L. (2009). Why divorce laws matter: incentives for non-contractible marital investments under unilateral and consent divorce. *Journal of Law, Economics and Organization, 25*, 80–106.

Wilcox, W. B., Doherty, W. J., Fisher, H., Galston, W. A., Glenn, N. D., Gottman, J., & Lerman, R. (2005). *Why Marriage Matters: Twenty-Six Conclusions from the Social Sciences*, (New York: Institute for American Values, 2005).

Wilke, D. J., & Vinton, L. (2005). The nature and impact of domestic violence across age cohorts. *Affilia, 20*(3), 316-328.

Wong, J. Y. H., Choi, A. W. M., Fong, D. Y. T., Choi, E. P. H., Wong, J. K. S., So, F. L., ... & Kam, C. W. (2016). A comparison of intimate partner violence and associated physical injuries between cohabitating and married women: a 5-year medical chart review. *BMC public health, 16*(1), 1207.

World Family Map (2019). *Mapping family change and child well-being outcomes*. Editors: W. Bradford Wilcox, Laurie DeRose, Jason S. Carroll. Institute for Family Studies.

WHO (2021). *Violence against women prevalence estimates, 2018: global, regional and national prevalence estimates for intimate partner violence against women and global and regional prevalence estimates for non-partner sexual violence against women*. Geneva. World Health Organization.

Table 1 - Descriptive statistics and definition of variables

Variable	Description of variables	Obs.	Mean	SD	Min	Max
Main variables						
<i>violence_index_12</i>	<i>Experience any kind of violence in the last 12 month</i>	47984	0.53	0.0036	0.00	1.00
<i>emotional_violence_index_12</i>	<i>Experienced any emotional violence in the last 12 month</i>	47984	0.50	0.0036	0.00	1.00
<i>less_severe_violence_index_12</i>	<i>Experienced any less severe violence in the last 12 month</i>	47984	0.26	0.0031	0.00	1.00
<i>severe_violence_index_12</i>	<i>Experienced any severe violence in the last 12 month</i>	47930	0.04	0.0011	0.00	1.00
<i>sexual_violence_index_12</i>	<i>Experienced any sexual violence in the last 12 month</i>	47926	0.07	0.0016	0.00	1.00
Control variables						
<i>Age</i>	<i>Current age of the women</i>	47984	32.84	0.0576	13.00	49.00
<i>Educ</i>	<i>Education of the women in single years</i>	47984	7.74	0.0414	0.00	24.00
<i>Educ_mar</i>	<i>Education of the partner in single years</i>	47683	8.37	0.0410	0.00	23.00
<i>Wealth_index_category</i>	<i>Wealth index -categorical-</i>	47984	3.11	0.0135	1.00	5.00
<i>Father_beat_mother</i>	<i>Father of the woman used to beat mother of the respondent</i>	37571	0.44	0.0041	0.00	1.00
<i>Urban</i>	<i>Type of place of residence: urban/rural</i>	47984	0.61	0.0042	0.00	1.00

Notes: Descriptive statistics of women (Demographic and Health Surveys DHS), from Bolivia (2008), Colombia (2005), Honduras (2005 – 2006), and Peru (2007 – 2008), that live with a partner or husband since at most 12 months ago and that have experienced only the present union.

Table 2 – Association between Marriage and Intimate Partner Violence against Women

VARIABLES	(1) Whole Sample	(2) Bolivia	(3) Colombia	(4) Honduras	(5) Peru
A. Dependent Variable: Violence Index					
Married and living together	-0.0664*** (0.00759)	-0.0527*** (0.0181)	-0.0651*** (0.0128)	-0.0459*** (0.00942)	-0.0724*** (0.0104)
Observations	37,298	6,811	14,370	8,423	16,117
R ²	0.090	0.028	0.029	0.010	0.040
Mean of violence suffered by not married women	0.699	0.507	0.693	0.163	0.781
B. Dependent Variable: Less Severe Violence Index					
Married and living together	-0.0493*** (0.00758)	-0.0159 (0.0145)	-0.0577*** (0.0116)	-0.0253*** (0.00623)	-0.0612*** (0.0120)
Observations	37,298	6,811	14,370	8,423	16,117
R ²	0.048	0.029	0.040	0.012	0.056
Mean of less severe violence suffered by not married women	0.351	0.274	0.360	0.0723	0.377
C. Dependent Variable: Severe Violence Index					
Married and living together	-0.0113*** (0.00304)	-0.00453 (0.00495)	-0.0162*** (0.00584)	-0.0157*** (0.00349)	-0.0117** (0.00465)
Observations	37,291	6,804	14,370	8,378	16,117
R ²	0.016	0.005	0.022	0.009	0.015
Mean of severe violence suffered by not married women	0.0469	0.0312	0.0682	0.0252	0.0418
D. Dependent Variable: Sexual Violence Index					
Married and living together	-0.0111*** (0.00418)	-0.00500 (0.00942)	-0.0153** (0.00664)	-0.0111** (0.00566)	-0.0126** (0.00602)
Observations	37,290	6,803	14,370	8,375	16,117
R ²	0.017	0.012	0.018	0.009	0.025
Mean of sexual violence suffered by not married women	0.0762	0.0692	0.0863	0.0524	0.0735
E. Dependent Variable: Emotional Violence Index					
Married and living together	-0.0657*** (0.00792)	-0.0448** (0.0184)	-0.0707*** (0.0128)	-0.0412*** (0.00872)	-0.0729*** (0.0112)
Observations	37,298	6,811	14,370	8,423	16,117
R ²	0.084	0.023	0.025	0.010	0.030
Mean of emotional violence suffered by not married women	0.659	0.453	0.663	0.140	0.741

*** p<0.01, ** p<0.05, * p<0.1

Notes: Table reports the OLS estimates, equation (1). Robust standard errors in parentheses. Sample: women that live with a partner or husband since at most 12 months, and that have experienced only the present union. The variable “Married and living together” is a dummy that takes the value 1 if the woman is married and lives with her husband. All specifications control for the age and education of the woman, the education of the partner, the household wealth, and a dummy variable that takes value 1 if the woman reports that her father used to beat her mother. Controls also include a dummy Urban that takes the value 1 if the woman lives in an urban area, and country fixed effects in the pool of countries sample.

Table 3 – OLS Estimates of the association between marriage and intimate partner violence against women

Variables	Whole Sample						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Married and living together	-0.0658*** (0.00555)	-0.0737*** (0.00602)	-0.0713*** (0.00611)	-0.0702*** (0.00613)	-0.0654*** (0.00612)	-0.0628*** (0.00614)	-0.0664*** (0.00759)
Current age of the women		0.00115*** (0.000341)	0.00102*** (0.000346)	0.000971*** (0.000347)	0.00110*** (0.000356)	0.00113*** (0.000355)	0.000701 (0.000442)
Education of the women in years			-0.00160** (0.000664)	0.000824 (0.000919)	0.000576 (0.000969)	0.000269 (0.000969)	0.000632 (0.00113)
Education of the partner in years				-0.00353*** (0.000917)	-0.00355*** (0.000956)	-0.00370*** (0.000957)	-0.00427*** (0.00115)
Wealth index -categorical- = 5, richest					0.00439 (0.0121)	-0.0394*** (0.0140)	-0.0350** (0.0176)
Urban						0.0504*** (0.00886)	0.0431*** (0.0111)
Father used to beat respondent's mother							0.115*** (0.00688)
Constant	0.498*** (0.00941)	0.466*** (0.0140)	0.481*** (0.0154)	0.495*** (0.0159)	0.460*** (0.0166)	0.456*** (0.0165)	0.418*** (0.0198)
Observations	47,984	47,984	47,984	47,683	47,683	47,683	37,298
R-squared	0.216	0.216	0.216	0.217	0.220	0.221	0.090
Mean of violence suffered by not married women	0.571	0.571	0.571	0.571	0.571	0.571	0.699

*** p<0.01, ** p<0.05, * p<0.1

Notes: Robust standard errors in parentheses. Sample: women that live with a partner or husband since at most 12 months, and that have experienced only the present union. The variable Married and living together is a dummy that takes the value 1 if the woman is married and lives with her husband. All the specifications include country fixed effects. Model (7) does not include Honduras due to its data do not contain the variable 'Father used to beat her mother'.

Table 4 - Significance of Marriage dummy in each of the questions about intimate partner violence from Demographic Health Surveys (DHS), by country

	Number of regressions	Share of OLS regressions with significant marriage dummy	R ² without marriage dummy	R ² with marriage dummy	ΔR ²
Bolivia	13	0.46	1.7	1.8	0.1
Colombia	20	1.00	2.0	2.2	0.2
Honduras	6	1.00	0.7	1.0	0.3
Peru	18	0.83	2.4	2.5	0.1

Notes: Adjusted R² is expressed in percentage terms. Significant marriage dummy at 10 percent level. The vector of controls in the regressions includes age, education, education of the partner, the household wealth, a dichotomy variable equals 1 if the woman lives in an urban area, and a dummy variable that takes the value of 1 if the woman reports that her father used to beat her mother. Honduras regressions do not include the variable 'Father used to beat her mother' (missing variable in DHS from Honduras). Not all the questions are available for every country. Sample: women that live with a partner or husband since at most 12 months, and that have experienced only the present union.

Table 5 - Significance of Marriage dummy in each question about intimate partner violence from Demographic Health Surveys (DHS), by question category

	Number of regressions	Share of OLS regressions with significant marriage dummy	R ² without marriage dummy	R ² with marriage dummy	ΔR ²
A. Less Severe Physical Violence	14	0.86	2.5	2.6	0.1
B. Severe Physical Violence	8	0.63	0.7	0.9	0.2
C. Sexual Violence	5	0.60	1.4	1.5	0.1
D. Emotional Violence	30	0.90	1.6	1.9	0.3

Notes: Adjusted R² is expressed in percentage terms. Significant marriage dummy at 10 percent level. The vector of controls in the regressions includes age, education, education of the partner, the household wealth, a dichotomy variable equals 1 if the woman lives in an urban area, and a dummy variable that takes the value of 1 if the woman reports that her father used to beat her mother. Honduras regressions do not include the variable 'Father used to beat her mother' (missing variable in DHS for Honduras). Not all the questions are available for every country. Sample: women that live with a partner or husband since at most 12 months, and that have experienced only the present union.

Table 6 - Mean differences between married and not married women in each of the questions about intimate partner violence from Demographic Health Surveys (DHS) – All countries

Variables	Mean Not Married and Living together	Mean Married and Living together	Mean difference	#Obs
Less Severe physical violence				
Partner pushed or pinched respondent	28.9%	24.4%	4.5%***	39543
Partner beat or kicked respondent	14.1%	12.4%	1.7%***	47929
Spouse ever slapped or twisted her arm	25.3%	21.3%	4.1%***	32252
Spouse ever kicked or dragged her	13.3%	11.5%	1.8%***	32252
Partner beat her with an object	4.5%	3.9%	0.6%*	15676
Spouse ever bite her	2.4%	1.1%	1.3%***	15083
Severe physical violence				
Partner tried to strangle or burn her	2.9%	2.6%	0.3%	39539
Spouse ever threatened with knife/gun or other weapon	2.8%	2.1%	0.7%***	40636
Spouse ever attacked with knife/gun or other weapon	1.5%	1.2%	0.3%*	32254
Sexual Violence				
Partner tried to force sex with her	6.7%	6.2%	0.5%*	47920
Spouse ever forced other sexual acts when not wanted	3.7%	3.7%	0.0%	17167
Emotional Violence				
Husband insists on knowing where she is	47.3%	39.7%	7.6%***	32250
Partner jealous if she talks to other men	39.4%	30.0%	9.4%***	24382
Husband ignores her	33.3%	31.2%	2.1%**	15083
Partner accused her of being unfaithful	20.5%	15.6%	4.9%***	39530
Does not permit her to meet her girl friends	18.9%	14.0%	4.9%***	32238
Partner humiliated or insulted her	18.7%	18.7%	0.0%	32854
Partner threatened to abandon her	17.6%	14.1%	3.5%***	39540
Partner tried to limit her contact with family	14.0%	11.5%	2.5%***	39529
Husband didn't count on her/take into consideration for family reunions	16.2%	12.6%	3.6%***	15083
Partner threatened to take her children	16.0%	9.4%	6.6%***	22363
Husband doesn't trust money to her	15.0%	12.8%	2.2%***	32234
Husband didn't consult for important family decisions	13.2%	11.0%	2.2%***	15083
Partner threatened to take away economic support	10.9%	9.4%	1.5%**	22377
Partner broke things at home	10.2%	8.2%	2.0%**	7286
Spouse ever threatened to harm her	9.1%	8.1%	1.1%*	17171
Harassed her	7.7%	4.9%	2.9%***	8388

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Notes: Not all the questions are available for every country. For the sake of simplicity, we grouped questions that are similar between the countries, though they are not identical. The table lists the mean difference between the women married and not married. Sample: women from Bolivia (2008), Colombia (2005), Honduras (2005 – 2006), and Peru (2007 – 2008) – Demographic and Health Surveys (DHS) - that live with a partner or husband since at most 12 months ago and that have experienced only the present union.

Table 7- OLS Estimates of the association between marriage and intimate partner violence against women in Uruguay

Emotional violence				
Married and living together	-0.080***	-0.058***	-0.055**	-0.045**
	(0.0199)	(0.0213)	(0.0219)	(0.0217)
Constant	0.250***	4.960**	4.995**	4.595**
	(0.016)	(2.107)	(2.207)	(2.158)
Observations	2,139	2,139	2,071	2,071
R-squared	0.010	0.012	0.011	0.038
Mean of not married and living together	0.250	0.250	0.250	0.250
Economic violence				
Married and living together	-0.020**	-0.023**	-0.019*	-0.015
	(0.009)	(0.009)	(0.010)	(0.010)
Constant	0.044***	-0.586	0.198	0.055
	(0.007)	(0.953)	(1.031)	(1.010)
Observations	2,139	2,139	2,071	2,071
R-squared	0.003	0.003	0.009	0.026
Mean of not married and living together	0.044	0.044	0.044	0.044
Less severe physical violence				
Married and living together	-0.019***	-0.018**	-0.015**	-0.013*
	(0.007)	(0.007)	(0.007)	(0.007)
Constant	0.030***	0.201	0.477	0.406
	(0.006)	(0.769)	(0.886)	(0.874)
Observations	2,139	2,139	2,071	2,071
R-squared	0.004	0.005	0.007	0.014
Mean of not married and living together	0.030	0.030	0.030	0.030
Severe physical violence				
Married and living together	-0.005	0.005	-0.005	-0.004
	(0.003)	(0.004)	(0.004)	(0.004)
Constant	0.007**	-0.035	0.049	0.031
	(0.003)	(0.469)	(0.586)	(0.587)
Observations	2,139	2,139	2,071	2,071

R-squared	0.002	0.002	0.002	0.004
Mean of not married and living together	0.007	0.007	0.007	0.007

Controls:

Age	No	Yes	Yes	Yes
Education	No	No	Yes	Yes
Violence in childhood	No	No	No	Yes

*** p<0.01, ** p<0.05, * p<0.1

Sample: National Survey on Prevalence of Gender Violence, year 2013,
National Institute of Statistics, Uruguay

Table 8 - OLS Estimates of the association between marriage and use of the time

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	Prepares foods or cooks	Serves food, sets the table and/or washes the dishes	Does the cleaning	Washes, folds or irons the clothes	Buys food, Drinks, cleaning, supplies, etc.	Buys clothing for himself/herself or for a member of the household	Does some electrical sanitary repairs or brickwork	Makes any payments related to the housing accounts	Breastfeeds or feeds a small child in the house	Bathes or dresses a small child in the house	Takes or picks up a small child at school	Takes a child to a health care center	Helps with school tasks	Plays with a child in the house	Takes a child for a walk
Married and living together	0.0539***	0.0465***	0.00930**	0.0359***	0.0376***	-0.0103***	-0.0216***	0.0111***	-0.00582**	0.0108***	0.0545***	0.00299***	0.0476***	0.0113***	0.00866***
Constant	(0.00365) 0.737*** (0.00718)	(0.00372) 0.638*** (0.00722)	(0.00370) 0.750*** (0.00722)	(0.00385) 0.630*** (0.00736)	(0.00365) 0.406*** (0.00721)	(0.00154) 0.0341*** (0.00275)	(0.00253) 0.0971*** (0.00404)	(0.00256) -0.0264*** (0.00467)	(0.00287) 0.480*** (0.00527)	(0.00312) 0.731*** (0.00581)	(0.00274) 0.354*** (0.00474)	(0.00110) 0.0418*** (0.00191)	(0.00273) 0.369*** (0.00499)	(0.00341) 0.859*** (0.00617)	(0.00234) 0.231*** (0.00416)
Observations	98,274	98,274	98,274	98,274	98,274	98,274	98,274	98,274	98,274	98,274	98,274	98,274	98,274	98,274	98,274
R-squared	0.030	0.038	0.049	0.047	0.057	0.017	0.014	0.017	0.129	0.198	0.087	0.013	0.079	0.208	0.066
Mean of "investment" in the task by not married women	0.670	0.639	0.655	0.550	0.640	0.0509	0.118	0.113	0.212	0.297	0.142	0.0204	0.145	0.381	0.116

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Time-Use Survey (National Institute of Statistics, Uruguay, 2013) (In spanish: Encuesta de uso del Tiempo y del Trabajo no Remunerado, Instituto Nacional de Estadística, 2013)

Sample: Men and women older than 15 years of age, that live with a partner. The variable 'Married and living together' is a dummy that takes the value 1 if the person is married and lives with his/her partner. All specifications control for age, education, household wealth, and a dummy Urban that takes the value 1 if the person lives in an urban area.

Figure 1 - Percentage of women who are victims of violence by wealth index for cohabiting and marital unions across countries

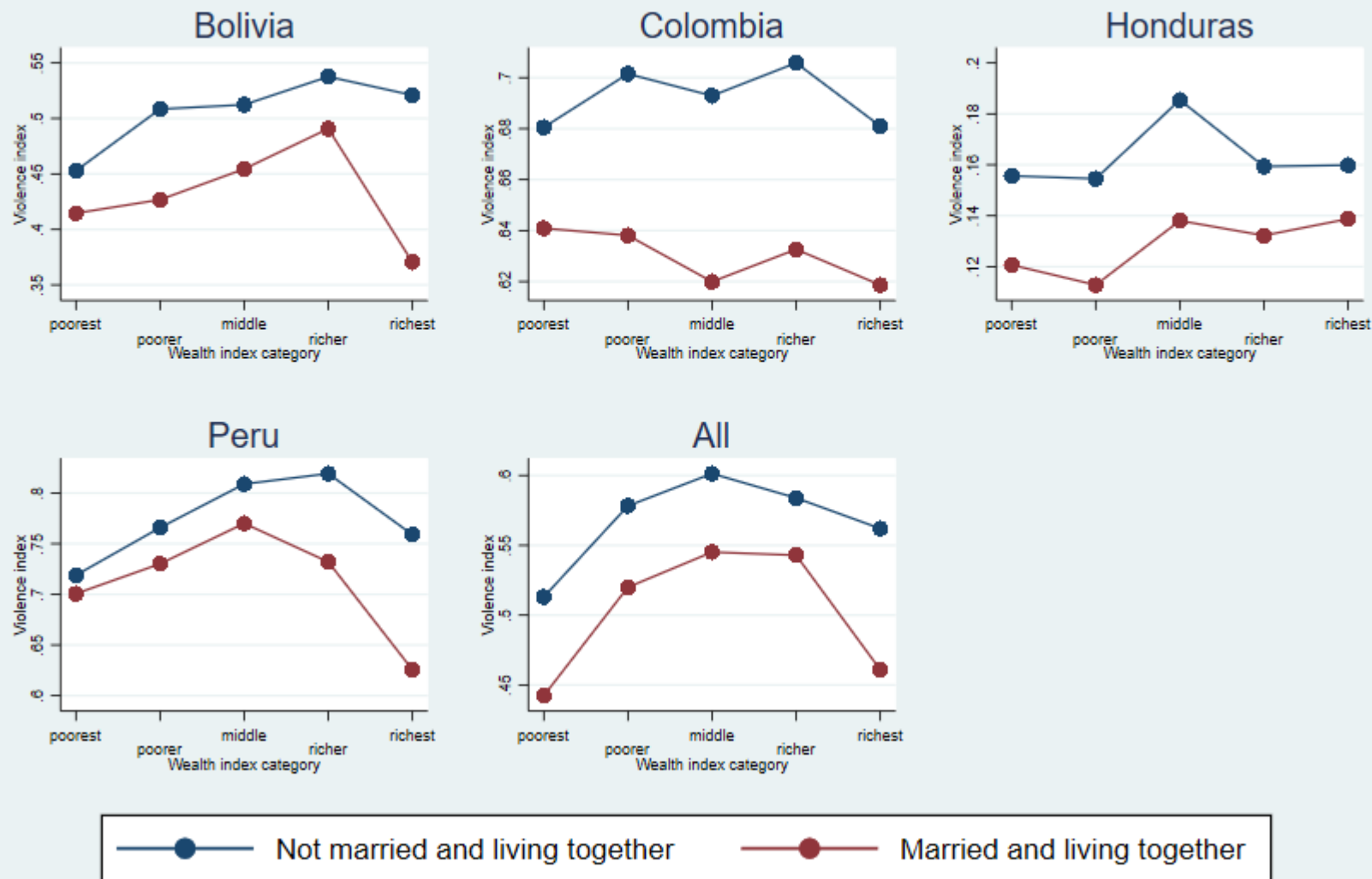


Figure 2 - Percentage of women who are victims of violence by educational level for cohabiting and marital unions across countries

