

Determinants of intimate partner violence in Ecuador: Evidence from the 2019 ENVIGMU survey

Determinantes de la violencia de pareja en Ecuador:
Evidencia de la encuesta ENVIGMU 2019

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Received: November 27, 2025

Aproved: January 19, 2026

Published: July 23, 2026

 *Spanish version here*

DOI: <https://doi.org/10.25097/rep.n44.2026.02>

Cómo citar / How to cite: López Cusme, K. E. y Báez Flores, S. M. (2026). Determinants of intimate partner violence in Ecuador: Evidence from the 2019 ENVIGMU survey. *Revista Economía y Política*, (44), 19-40. <https://doi.org/10.25097/rep.n44.2026.02>

ABSTRACT

The study analyzes intimate partner violence against women in Ecuador and its association with socioeconomic and cultural variables. The analysis uses data from the Family Relationships and Gender-Based Violence Survey (ENVIGMU), a nationally representative cross-sectional survey whose most recent round was conducted by the National Institute of Statistics and Censuses (INEC) in 2019. The methodology employs three probit models: the first incorporates socioeconomic factors, the second considers experiences of violence in the family of origin, and the third examines the influence of gender roles. The results indicate that intimate partner violence is associated with multiple factors, showing that having experienced family violence and endorsing traditional gender roles are linked to a higher probability of experiencing intimate partner violence. This study underscores the importance of implementing public policies that promote gender equality and mitigate intergenerational violence.

KEYWORDS: gender roles, intimate partner relationships, socioeconomic factors, violence against women, violence in the family of origin



RESUMEN

La investigación analiza la violencia contra las mujeres perpetrada por la pareja en Ecuador y su asociación con variables socioeconómicas y culturales. Se utilizan datos de la Encuesta de Relaciones Familiares y Violencia de Género (ENVIGMU), encuesta transversal y representativa a nivel nacional, cuyo último levantamiento fue realizado por el Instituto Nacional de Estadísticas y Censos (INEC) en 2019. La metodología emplea tres modelos probit: el primero incorpora factores socioeconómicos, el segundo considera antecedentes de violencia en la familia de origen y el tercero analiza la influencia de los roles de género. Los resultados evidencian que la violencia de pareja se asocia a múltiples factores, mostrando que haber sufrido violencia familiar y apoyar los roles de género tradicionales se vincula con mayor probabilidad de sufrir violencia de pareja. Este estudio resalta la necesidad de implementar políticas públicas que promuevan la igualdad de género y reduzcan la violencia intergeneracional.

PALABRAS CLAVE: factores socioeconómicos, roles de género, violencia contra las mujeres, violencia de pareja, violencia en la familia de origen

1. INTRODUCTION

Women's right to live in an environment free from Violence is recognized in various international agreements such as the Charter of the Organization of American States (OAS, 1948), the Convention on the Elimination of All Forms of Discrimination against Women (United Nations, 1979), and the Inter-American Convention on the Prevention, Punishment, and Eradication of Violence against Women, known as the Belém do Pará Convention (OAS, 1994). Complementarily, the 2030 Agenda for Sustainable Development establishes achieving gender equality and empowering all women and girls as one of its priority goals (United Nations, 2015).

In Ecuador, gender-based Violence began to be recognized as a public health issue following the historic struggle of women's movements since the 1980s. This process led to the ratification of international agreements and the enactment of specific regulatory frameworks, such as the Law against Violence against Women and the Family, known as Law 103 (National Congress, 1995), and, subsequently, the Comprehensive Organic Law to Prevent and Eradicate Violence against Women (National Assembly of the Republic of Ecuador, 2018). However, despite these regulatory advances, Violence against women continues to manifest as a persistent and widespread problem.

Globally, the World Health Organization estimates that one in three women worldwide has experienced physical and/or sexual Violence by a partner or a third party at some point in her life (WHO, 2021). In Latin America and the Caribbean, rates of physical and sexual intimate partner violence among women aged 18 to 49 range from 16% in Panama to as high as 42% in Bolivia (World Bank, 2024). In Ecuador, the data is alarming: according to INEC (2019), 65% of women have experienced at least one act of Violence in various areas of their lives, with intimate partner violence being the most frequent, at a prevalence of 43%, confirming the structural nature of this phenomenon.

Despite recognition of the problem and the implementation of public policies under the National Plan to Prevent and Eradicate Violence against Women 2020–2030 (Secretariat for Human Rights, 2021), cultural practices and beliefs persist that downplay the severity of Violence and limit effective support for victims. Recent studies have documented the relationship between socioeconomic factors and traditional gender roles in Violence against women in Ecuador (Vacacela & Mideros, 2022). However, there remains a gap in the literature regarding the simultaneous integration of these factors with experiences of Violence in the family of origin, as well as the analysis of their interactions in the reproduction of intimate partner violence.

In this context, the present study analyzes Violence against women in intimate partner relationships in Ecuador, identifying the role of socioeconomic factors, Violence in the family of origin, and gender roles in the likelihood of experiencing Violence. Based on the estimation of three probit models, the study provides empirical evidence that allows for an integrated understanding of the structural, relational, and cultural determinants of intimate partner violence in Ecuador. The article is structured into four sections. First, a literature review is presented; the second section outlines the methodology used; the third presents the results and their discussion; and, finally, the fourth section presents the study's conclusions.

2. LITERATURE REVIEW

The Declaration on the Elimination of Violence against Women formalized the international recognition of Violence against women, defining it as “any act of gender-based violence that results in, or is likely to result in, physical, sexual, or psychological harm or suffering to women, including threats of such acts, coercion, or arbitrary deprivation of liberty” (United Nations, 1993, p. 2). This phenomenon constitutes one of the most common and, at the same time, most overlooked human rights violations worldwide, manifesting in multiple forms and settings, both public and private (Spotlight Initiative, 2023).

Among the most prevalent forms of gender-based Violence is that perpetrated by a partner, defined as any behavior within an intimate relationship that causes or may cause physical, psychological, or sexual harm to the members of the relationship, including behaviors aimed at exercising domination or manipulation over the partner (WHO, 2003).

Historically, these dynamics were normalized and relegated to the private sphere, which hindered their social and institutional recognition. Beginning in the 1970s, the feminist movement helped bring domestic Violence to light as a public issue, driving legal reforms and protective policies (Stöckl & Sorenson, 2024). Subsequent evidence has shown that intimate partner violence stems from a complex interplay of social and cultural factors, in which patriarchal structures play a central, though not exclusive, role (Moreno-Polo et al., 2025).

In this context, the literature agrees that intimate partner violence cannot be explained by a single cause, but rather results from the interaction of multiple factors that combine to shape unequal power relations within intimate partnerships.

2.1. Socioeconomic Factors

The literature shows that intimate partner violence is associated with various socioeconomic conditions that increase women's vulnerability throughout the life cycle. Among the most common factors are age, educational level, economic Status, place of residence, ethnicity, and marital Status (Vacacela & Mideros, 2022). In particular, it has been noted that the risk may be higher in the early stages of married life (Gerino et al., 2018) and in cohabiting relationships, as well as among separated or divorced women or those with former partners, where dynamics of control and conflict persist (Choque-Chura et al., 2019). Likewise, evidence shows that lower educational levels and a more precarious economic status are associated with a higher likelihood of Violence, in part because they restrict access to resources, support networks, and protection services (López & Cruz, 2020; Vara-Horna, 2020).

Other elements of the family context are also relevant. The number of children is often positively associated with Violence, as it can intensify economic pressures and tensions within the home (Camacho, 2014). Furthermore, belonging to indigenous communities (Nava-Navarro et al., 2017) and women's entry into the workforce in settings where traditional roles predominate can exacerbate vulnerabilities or generate conflicts (Choque-Chura et al., 2019). However, the literature agrees that

these determinants, on their own, do not fully explain intimate partner violence, reinforcing the need to incorporate family and cultural dimensions that allow for a better understanding of its persistence (Moreno-Polo et al., 2025).

2.2. Violence in the Family of Origin

The family environment can provide a haven and a setting for development or, conversely, a context in which dynamics of physical or psychological abuse are perpetuated (Artazcoz et al., 2019). Empirical evidence shows that witnessing or experiencing Violence during childhood is associated with processes of intergenerational transmission, in which these behaviors are internalized as legitimate forms of interaction and conflict resolution (Copp et al., 2019). These childhood experiences increase the likelihood that, in adulthood, men will reproduce violent behaviors and women will face situations of victimization in their intimate relationships, contributing to the normalization of unequal power relations between men and women (Merino Lorente, 2024; Trombetta et al., 2024).

2.3. Gender Roles

Gender roles are a central dimension for understanding intimate partner violence, as they are social constructs that establish differentiated expectations regarding behaviors, responsibilities, and specific roles for men and women based on their biological sex (Lomazzi, 2023). Traditional roles assign men leadership and economic provision functions, while assigning women responsibilities related to caregiving and domestic tasks, reinforcing unequal hierarchies within intimate relationships (O'Connor et al., 2023).

Within this framework, socialization in family and social settings where gender stereotypes predominate, coupled with an implicit acceptance of Violence, contributes to shaping shared social norms that influence the tolerance and justification of violent behavior within intimate relationships. These attitudes and beliefs associated with unequal roles tend to be reproduced, normalizing male dominance and female subordination, which contributes to the persistence of violent dynamics over time (Rafiq et al., 2023). Empirical evidence shows a consistent relationship between support for traditional gender roles and greater acceptance and prevalence of intimate partner violence during cohabitation (Grembi et al., 2024).

In summary, the literature has identified multiple factors associated with intimate partner violence, although these have often been analyzed in isolation, especially in the Latin American context. In Ecuador, empirical evidence is limited; the present study contributes by analyzing these three dimensions in an integrated manner, emphasizing the measurement of Violence in the family of origin and gender roles, which allows for a more precise understanding of the multifactorial nature of intimate partner violence.

3. MATERIALS AND METHODS

This section describes the data and methodology used to analyze the determinants of intimate partner violence in Ecuador from a quantitative perspective.

3.1. Data

The data come from the *National Survey on Family Relationships and Gender-Based Violence against Women (ENVIGMU)*, conducted by INEC in 2019. This survey is nationally representative and was administered to women aged fifteen and older. For this study, only data from women who were

married, in a de facto union, separated, divorced, or widowed were considered¹. The analysis was conducted using complete cases, resulting in a final sample of 14,109 women².

The dependent variable, named Violence, is binary in nature; it takes the value of one if the woman has experienced at least one incident of intimate partner violence throughout her life, and zero otherwise. This variable incorporates the dimensions of psychological, physical, economic, and sexual Violence corresponding to Section Seven of the ENVIGMU, which pertains to life as a couple. In the sample analyzed, 6,668 women (47.3%) reported having experienced at least one episode of Violence in this context.

The model's explanatory variables are described below, organized into three components: socioeconomic factors, family-of-origin Violence, and gender roles.

3.1.1. Socioeconomic factors

We use quantitative and qualitative variables widely employed in the literature on intimate partner violence. Table 1 shows the descriptive statistics for the quantitative variables.

Table 1

Descriptive statistics for quantitative socioeconomic variables

Variable	N	Mean	Standard deviation	Minimum	Maximum
Age	14,109	46.5	16.6	15	97
Number of children	14,109	3.6	2.5	0	19

Authors (2025)

The qualitative variables considered within the socioeconomic factors are presented in Table 2, along with their categories, frequencies, and percentages.

Table 2

Descriptive statistics for qualitative socioeconomic variables

Variables	Categories	Frequency	Percentage
Area	Urban	8,951	63.4%
	Rural	5,158	36.6%
Marital Status	Married	10,578	75.0%
	Separated	3,531	25.0%
Level of Education	Illiterate	1,060	7.5%
	Elementary	5,792	41.1%
	Secondary	4,943	35.0%
	College	2,175	15.4%
	Graduate	139	1.0%

1 Unmarried women were excluded because the analysis focused on women in couples.

2 To construct the database, microdata from the 2019 ENVIGMU were integrated from the following forms: 1 (housing and household characteristics), 2 (married or cohabiting women), and 3 (separated, divorced, or widowed women). The integration was performed using each respondent's unique identifier, aligning equivalent variables across questionnaires to ensure consistency and avoid matching errors. The consolidated database initially included 14,125 women; 16 records were excluded due to missing information on variables related to violence in the family of origin and gender roles.

Ethnicity	Afro-Ecuadorian	469	3.3%
	Indigenous	1,773	12.6%
	Mestizo	11,158	79.1%
	White	344	2.4%
	Montubia	341	2.4%
	Other	24	0.2%
Working	Working	7,953	56.4%
	Not working	6,156	43.6%

Authors (2025)

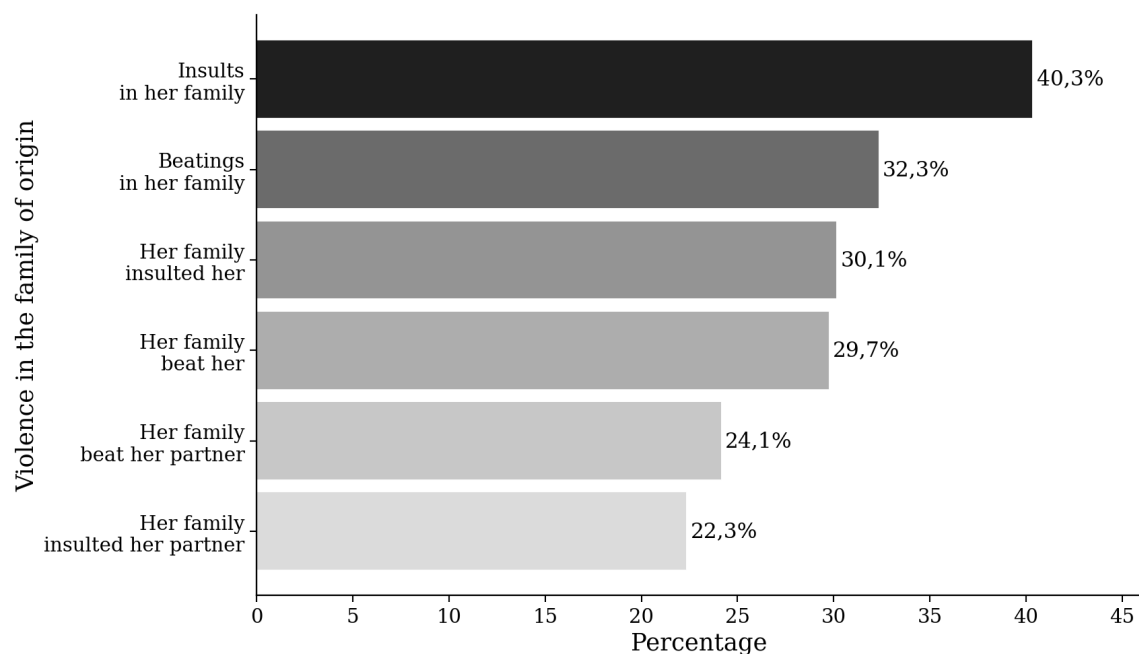
3.1.2. Violence in the family of origin

This is a composite variable comprising binary variables that capture exposure to physical and verbal Violence in the family environment during childhood and adolescence, for both the woman and her current or former partner. These variables are drawn from Section Five of the ENVIGMU and allow us to determine whether the woman witnessed or was a direct victim of insults or physical abuse in her family of origin, as well as whether her current or former partner was exposed to similar situations.

This set of variables aims to capture the intergenerational dimension of Violence, widely documented in the literature, by incorporating early experiences of Violence as potential factors associated with the reproduction of violent behaviors in adulthood. Figure 1 summarizes the variables used for this component.

Figure 1

Variables on violence in the family of origin



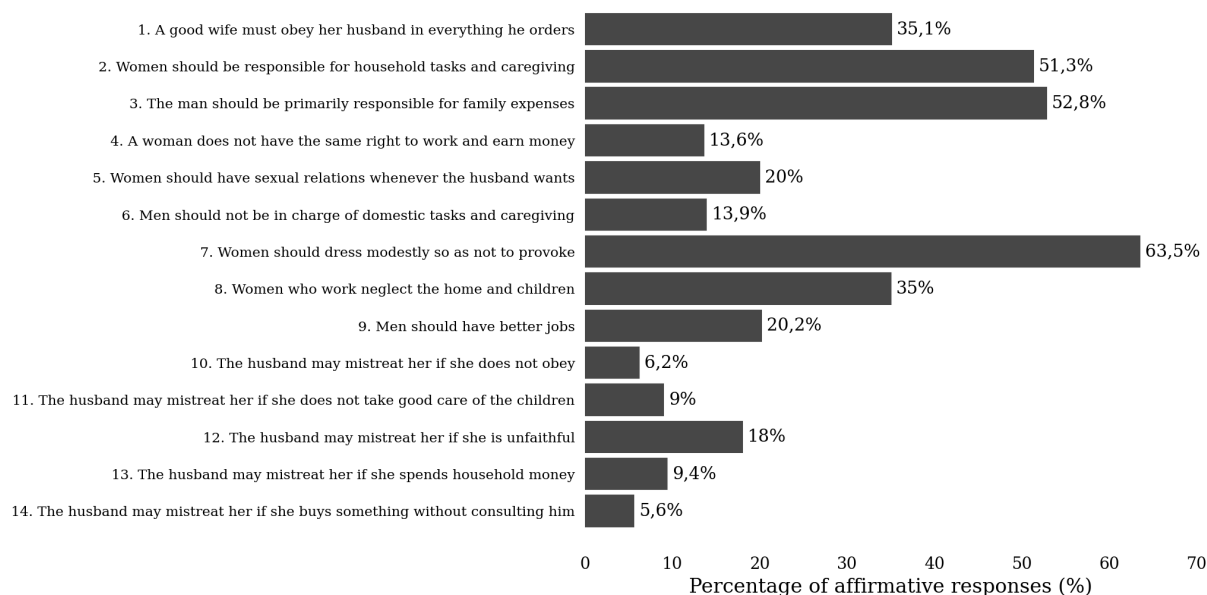
Authors (2025)

3.1.3. Gender roles

The Gender Roles Index was constructed using fourteen questions from Section 9 of the ENVIGMU survey, titled “Opinions on Male and Female Roles,” which capture perceptions related to traditional gender roles and the justification of Violence. Figure 2 presents the percentage of affirmative responses by item.

Figure 2

Percentage of affirmative opinions on gender roles and justification of violence



Authors (2025)

To construct the index, each item was recoded in a binary format, assigning a value of 1 when the response reflected approval of traditional gender roles or justification of violence, and 0 otherwise. To ensure construct validity, items formulated in the opposite sense (items 4 and 6) were recoded. Subsequently, the obtained values were aggregated using a simple sum and normalized on a scale from 0 to 1, where 0 indicates total disapproval of traditional roles and 1 represents full approval. Table 3 presents the descriptive statistics of the index.

Table 3

Descriptive statistics of the gender roles index

Gender Roles Index	N	Mean	Standard	Minimum	Maximum
	14,109	0.3	0.2	0	1

Authors (2025)

In addition, the internal consistency of the index was assessed using Cronbach’s alpha coefficient, yielding a value of $\alpha = 0.758$ for fourteen items, indicating adequate internal consistency of the index and supporting the reliability of the constructed instrument.

3.2. Methodology

To analyze the influence of various factors on the probability that a woman will experience violence in her intimate relationship, binary choice models were used, specifically probit models. In these models, the dependent variable takes on only two possible values, such as “yes” or “no,” and the probability of the event occurring is modeled based on a set of explanatory variables, as follows:

$$P(y = 1|X) = P(y = 1|x_1, x_2, \dots, x_k)$$

Where y is the dichotomous dependent variable and X denotes the set of explanatory variables. The probit model assumes the existence of a latent (unobserved) variable y^* defined as:

$$y^* = \beta_0 + X\beta + \varepsilon, \quad y = 1[y^* > 0]$$

Where $y=1[y^*>0]$ is an indicator function that defines a binary response, taking the value of one if the event is true and zero if it is false. If the coefficient is positive, an increase in the independent variable raises the probability of the outcome, while a negative coefficient lowers it. The coefficients are interpreted through marginal effects, which reflect the change in the probability of experiencing violence in response to variations in the explanatory variables.

To progressively capture the various dimensions associated with intimate partner violence, three nested probit models were estimated. Model 1 includes only socioeconomic factors. Model 2 incorporates variables on violence in the family of origin. Finally, Model 3 expands the analysis by including the gender roles index. This approach allows for a progressive evaluation of how the incorporation of relational and cultural dimensions modifies the magnitude and significance of socioeconomic factors in the probability of experiencing intimate partner violence.

The specifications of the three models are presented in the following equations:

Model 1: Socioeconomic factors

$$Violencia_i = \alpha + \sum_{k=1}^n \beta_k X_{k,i} + \varepsilon_i \quad (1)$$

Model 2: Violence in the family of origin

$$Violencia_i = \alpha + \sum_{k=1}^n \beta_k X_{k,i} + \sum_{j=1}^m \gamma_j VFO_{j,i} + \varepsilon_i \quad (2)$$

Model 3: Gender roles

$$Violencia_i = \alpha + \sum_{k=1}^n \beta_k X_{k,i} + \sum_{j=1}^m \gamma_j VFO_{j,i} + \sigma RG_i + \varepsilon_i \quad (3)$$

Where $Violencia_i$ represents the binary dependent variable indicating whether the woman has experienced any type of intimate partner violence (1) or not (0).

The vector $X_{k,i}$ corresponds to the woman's socioeconomic characteristics, while β_k represents the vector of coefficients associated with these variables.

The vector $VFO_{j,i}$ covers experiences of physical and verbal violence in the family of origin, both for the woman and for her partner or ex-partner, γ_j and represents the coefficients associated with these variables.

The Gender Roles Index RG_i captures beliefs and attitudes related to traditional gender roles, and its effect is estimated using the coefficient σ .

Finally, ε_i represents the random error term of the model.

Table 4 summarizes the variables included in each model, as well as their reference categories; therefore, these are not detailed again.

To validate the specified and estimated models, post-estimation tests were conducted, including tests for heteroscedasticity, omission of relevant variables, and multicollinearity, as well as goodness-of-fit tests using the confusion matrix and the ROC curve (see Appendices A, B, C, D, and E).

4. RESULTS AND DISCUSSION

Based on equations (1), (2), and (3), Table 4 presents the results of the three probit models estimated to analyze the factors associated with intimate partner violence. Figures of the marginal effects are included in Appendix F. Since heteroscedasticity was detected, the models were estimated using robust standard errors.

Table 4
Probit model results

Variable	Model 1		Model 2		Model 3	
	Coefficients	Marginal Effects	Coefficients	Marginal Effects	Coefficients	Marginal Effects
Constant	-0.209** (0.096)		-0.505*** (0.098)		-0.555*** (0.099)	
Socioeconomic factors						
Age	0.016*** (0.004)	0.006*** (0.001)	0.013*** (0.004)	0.005*** -0.001	0.013*** (0.004)	0.005*** -0.001
Age2	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Number of children	0.046*** (0.006)	0.018*** (0.002)	0.040*** (0.006)	0.014*** (0.002)	0.039*** (0.006)	0.014*** (0.002)
Area (rural)						
Urban area	-0.038 (0.025)	-0.014 (0.009)	-0.025 (0.026)	-0.009 (0.009)	-0.013 (0.026)	-0.005 (0.009)
Marital status (ref. Separated)						
Marital status	-0.523*** (0.026)	-0.199*** (0.010)	-0.525*** (0.027)	-0.188*** (0.009)	-0.529*** (0.027)	-0.189*** (0.009)
Educational level (ref. College)						
Illiterate	0.146*** (0.057)	0.056*** (0.021)	0.088 (0.058)	0.031 (0.021)	0.042 (0.059)	0.015*** (0.021)
Elementary	0.212*** (0.035)	0.081*** (0.013)	0.162*** (0.036)	0.058*** (0.013)	0.122*** (0.037)	0.043*** (0.013)
High school	0.216*** (0.034)	0.082*** (0.013)	0.176*** (0.034)	0.063*** (0.012)	0.157*** (0.035)	0.056*** (0.012)
Graduate	-0.160 (0.114)	-0.061 (0.043)	-0.133 (0.119)	-0.048 (0.042)	-0.129 (0.119)	-0.046 (0.042)
Ethnicity (ref. Indigenous)						
Afro-Ecuadorian	-0.194*** (0.069)	-0.074*** (0.026)	-0.165** (0.070)	-0.059** (0.025)	-0.149** (0.071)	-0.053** (0.025)

Montubia	-0.515*** (0.079)	-0.196*** (0.030)	-0.406*** (0.081)	-0.145*** (0.029)	-0.385*** (0.082)	-0.137*** (0.029)
Mestizo	-0.172*** (0.036)	-0.065*** (0.014)	-0.128*** (0.037)	-0.046*** (0.013)	-0.108*** (0.037)	-0.038*** (0.013)
White	-0.305*** (0.078)	-0.116*** (0.030)	-0.240*** (0.081)	-0.086*** (0.029)	-0.230*** (0.081)	-0.082*** (0.029)
Other ethnicity	-0.149 (0.265)	-0.057 (0.101)	-0.169 (0.289)	-0.060 (0.103)	-0.164 (0.287)	-0.059 (0.102)
Employment (ref. Unemployed)						
Employed	0.171*** (0.023)	0.065*** (0.009)	0.141*** (0.024)	0.050*** (0.008)	0.144*** (0.024)	0.051*** (0.008)
Violence in the family of origin (ref. No)						
Insults in their family			0.243*** (0.035)	0.087*** (0.012)	0.243*** (0.035)	0.087*** (0.012)
Abuse in her family			0.104*** (0.037)	0.037*** (0.013)	0.104*** (0.037)	0.037*** (0.013)
Her family insulted her			0.092** (0.041)	0.033** (0.014)	0.089** (0.041)	0.032** (0.014)
Her family beat her			0.137*** (0.039)	0.049*** (0.014)	0.136*** (0.039)	0.049*** (0.014)
The family insulted their partner			0.307*** (0.047)	0.110*** (0.017)	0.308*** (0.047)	0.110*** (0.017)
The family beat their partner			0.267*** (0.045)	0.095*** (0.016)	0.267*** (0.045)	0.095*** (0.016)
Gender roles						
Gender roles index					0.280*** (0.066)	0.100*** (0.024)

Note: Robust standard errors in parentheses. Significance level: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$
 Authors (2025)

Model 1: Socioeconomic factors

The results of Model 1 show patterns consistent with the literature on intimate partner violence, as most of the variables analyzed were statistically significant. Age exhibits a nonlinear relationship, with positive coefficients for age and negative coefficients for its quadratic term, suggesting a higher probability of Violence in the early stages of married life and a gradual reduction as the life cycle progresses (Gerino et al., 2018).

The number of children is positively associated with the probability of Violence, increasing the risk by approximately 1.8% for each additional child, which is consistent with the literature linking parenting stresses and economic constraints to greater conflict at home (Camacho, 2014).

Regarding marital Status, married women have a lower probability of experiencing Violence compared to separated, divorced, or widowed women, with a reduction of nearly 19.9%, which supports evidence suggesting that separation is often a consequence of prior episodes of Violence and greater cumulative exposure to violent relationships (Choque-Chura et al., 2019).

Regarding educational level, the results indicate that women with lower levels of education (illiterate, with primary or secondary education) are more likely to experience Violence, with increases ranging from 5.6% to 8.2%, compared to those with a college education, suggesting that a higher level of education acts as a protective factor against intimate partner violence (López & Cruz, 2020).

Similarly, indigenous women experience higher levels of Violence compared to other ethnic groups, reflecting the persistence of structural inequalities associated with ethnicity, which disproportionately affect indigenous women in Ecuador (Nava-Navarro et al., 2017).

Finally, women's employment status shows a positive and statistically significant association with intimate partner violence, increasing the probability by approximately 6.5%. This result suggests that women's entry into the workforce can generate tensions in couple dynamics, associated with the redistribution of roles, family responsibilities, and attempts at control by the male partner, thereby increasing the risk of Violence (Camacho, 2014; Choque-Chura et al., 2019).

The results of Model 1 show that socioeconomic factors are necessary but not sufficient on their own to explain the phenomenon's complexity, underscoring the need to incorporate relational and cultural dimensions.

Model 2: Violence in the Family of Origin

The inclusion of variables associated with Violence in the family of origin allows for an expansion of the analysis toward a relational dimension of the phenomenon. When this dimension is included, socioeconomic factors maintain patterns similar to those observed in Model 1, although with a slight reduction in the magnitude of the marginal effects, suggesting that part of their influence is mediated by early experiences of Violence.

The results show a positive and statistically significant association between exposure to Violence in the family of origin and a higher likelihood of experiencing intimate partner violence in adulthood. In particular, having witnessed verbal abuse (8.6%) or physical aggression (3.7%) at home, as well as having been a direct victim of verbal abuse (3.3%) or physical abuse (4.9%) during childhood, consistently increases the subsequent risk. Taken together, these findings support the evidence on the intergenerational transmission of Violence, in which early exposure can normalize violent behaviors and unequal power relations, increasing vulnerability to victimization in later stages (Artazcoz et al., 2019; Copp et al., 2019; Trombetta et al., 2024).

Complementarily, Violence experienced by the partner or ex-partner during childhood shows particularly relevant associations. The partner's exposure to verbal Violence in childhood increases the probability that the woman will experience Violence by 11%. In comparison, physical Violence suffered by the partner in their family of origin increases this probability by 9.5%. These results are consistent with previous studies documenting how men exposed to Violence in early life are more likely to reproduce violent behaviors in their intimate relationships (Merino Lorente, 2024).

The results of Model 2 confirm that Violence in the family of origin is a significant factor in intimate partner violence, demonstrating that early experiences of Violence contribute to the reproduction of violent dynamics in adulthood. From a practical perspective, these findings underscore the need to strengthen prevention policies with early interventions in families with a history of Violence, to break the cycles of intergenerational transmission.

Model 3: Gender Roles

The inclusion of the gender roles index in Model 3 enables a deeper analysis by accounting for cultural dimensions related to perceptions of female and male roles in Ecuadorian society. In this model, socioeconomic variables maintain patterns similar to those observed in previous models, although with a further reduction in the magnitude of some marginal effects, suggesting that part of their influence is mediated by cultural factors.

Similarly, variables associated with Violence in the family of origin remain statistically significant and show positive signs, confirming the persistence of intergenerational processes of Violence transmission. However, the slight decrease in their marginal effects suggests that early exposure to Violence remains a relevant factor, but acts in interaction with other mechanisms that reinforce or legitimize Violence in adulthood.

The results show that greater adherence to traditional beliefs about gender roles, as well as the justification of Violence under certain circumstances, are associated with a higher probability of experiencing intimate partner violence. In this regard, the index presents a marginal effect of nearly 10%, indicating that gender roles operate as an independent factor in the reproduction of intimate partner violence and is consistent with previous studies noting that cultural norms and entrenched gender stereotypes reinforce unequal power relations (O'Connor et al., 2023; Lomazzi, 2023) and contribute to social tolerance of Violence against women (Grembi et al., 2024; Rafiq et al., 2023)

Model 3 provides empirical evidence that intimate partner violence is not solely attributable to structural inequalities or experiences of Violence in the family of origin, but also to cultural frameworks that legitimize unequal power relations between men and women.

In summary, the results show that intimate partner violence in Ecuador is associated with the interaction between socioeconomic factors, experiences of Violence in the family of origin, and cultural norms associated with gender roles. Given the study's cross-sectional design and the use of probit models, the findings should be interpreted as statistical associations rather than causal relationships. Despite this limitation, the results allow for the identification of specific lines of intervention: in the socioeconomic sphere, education stands out as a protective factor, making it pertinent to strengthen educational retention and expand training opportunities, especially for women in contexts of greater vulnerability; regarding Violence in the family of origin, it is important to promote prevention and early detection strategies targeting children and adolescents exposed to violent environments; and, with respect to gender roles, it is essential to develop educational initiatives aimed at transforming norms and beliefs that legitimize Violence.

5. CONCLUSIONS

This study analyzed the determinants of intimate partner violence in Ecuador based on the estimation of three probit models. The results show that these dimensions have a significant and complementary influence on the probability that a woman will experience Violence in her intimate relationship.

In the socioeconomic sphere, a nonlinear relationship was identified between age and the probability of Violence, as well as greater vulnerability among separated women, those with lower educational attainment, indigenous women, and women with heavier family burdens. While some of these factors reflect persistent structural inequalities, the results suggest that, on their own, they do not fully explain the complexity of the phenomenon.

The inclusion of variables associated with Violence in the family of origin confirmed the relevance of intergenerational transmission processes of Violence. Both direct and indirect exposure to violent family contexts significantly increase the likelihood of Violence in adulthood, reinforcing the idea that early experiences of abuse contribute to normalizing unequal power relations and reproducing cycles of Violence over time.

For their part, traditional gender roles emerge as a central factor in explaining intimate partner violence. As acceptance of gender roles increases, so does the likelihood that women will experience Violence. This finding demonstrates that cultural norms and beliefs rooted in gender stereotypes continue to contribute to the perpetuation of violent behaviors in intimate relationships.

In this context, women who internalize these beliefs are more vulnerable, highlighting the importance of implementing early interventions that promote gender equality and challenge social norms that legitimize Violence from early stages of the life cycle.

One of the main limitations of this research is the cross-sectional design of the data, which allows for the identification of statistical associations between the analyzed variables but does not enable an analysis of the temporal evolution of gender-based Violence or the establishment of direct causal relationships. In this regard, the absence of longitudinal data limits the analysis of changes in the dynamics of Violence across the life course and in different social contexts. Therefore, it is important to continue researching Violence against women using approaches that capture its multifaceted and dynamic nature.

Likewise, the country needs to generate more recent data that incorporates the impact of the COVID-19 pandemic, which may have intensified risk factors for many women. Finally, future research could expand the analysis by incorporating additional variables, such as alcohol or other substance use, as well as disaggregating Violence into its different types in order to identify specific factors associated with each manifestation of intimate partner violence.

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ADDITIONAL INFORMATION

JEL classification: J16 – C25 – D10 – I18

APPENDICES

Appendix A. Tests for Heteroscedasticity

Table 1a

Tests for heteroscedasticity

Breusch–Pagan/Cook–Weisberg test for heteroskedasticity		
Model 1	Model 2	Model 3
Variable: Adjusted values for Violence	Variable: Values adjusted for violence	Variable: Values adjusted for violence
Ho: Constant variance	Ho: Constant variance	Ho: Constant variance
chi2(1) = 353.41	chi2(1) = 204.09	chi2(1) = 196.65
Prob > chi2 = 0.0000	Prob > chi2 = 0.0000	Prob > chi2 = 0.0000

Authors (2025)

In all three models, the null hypothesis of constant variance is rejected, suggesting the presence of heteroscedasticity. Therefore, robust standard errors are used to ensure valid inference.

Appendix B. Tests for Omission of Relevant Variables

Table 1b

Test for omission of relevant variables

Ramsey-Reset Test		
Model 1	Model 2	Model 3
Variable: Values adjusted for violence	Variable: Values adjusted for violence	Variable: Values adjusted for violence
Ho: The model has no omitted variables	Ho: The model has no omitted variables	Ho: The model has no omitted variables
F (3, 14090) = 2.05	F (3, 14,084) = 9.34	F (3, 14083) = 9.60
Prob > F = 0.1041	Prob > chi2 = 0.0000	Prob > F = 0.0000

Authors (2025)

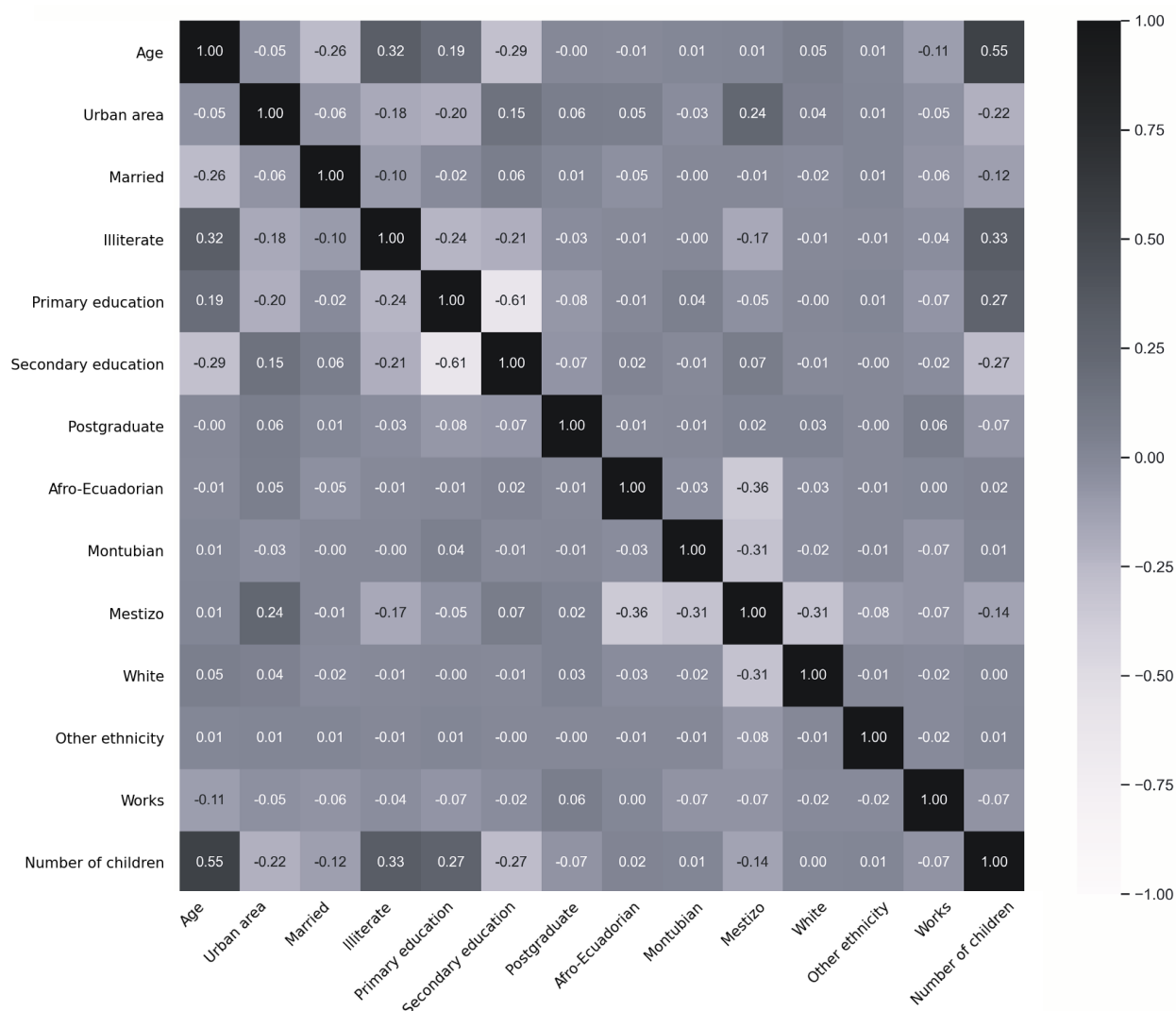
The Ramsey RESET specification test does not indicate the omission of relevant variables in Model 1. In contrast, in Models 2 and 3, the null hypothesis is rejected, suggesting possible misspecification associated with omitted variables, such as characteristics of the perpetrator or the household. Despite this caveat, the signs and magnitudes are consistent with previous evidence reported in the literature.

Appendix C. Multicollinearity Analysis

Multicollinearity was assessed using correlation matrices. In Model 1, no high associations were identified among the variables. In Models 2 and 3, slightly higher correlations were observed among the variables related to violence in the family of origin, which is to be expected since they capture closely related dimensions of the same phenomenon, without reaching levels that suggest multicollinearity issues.

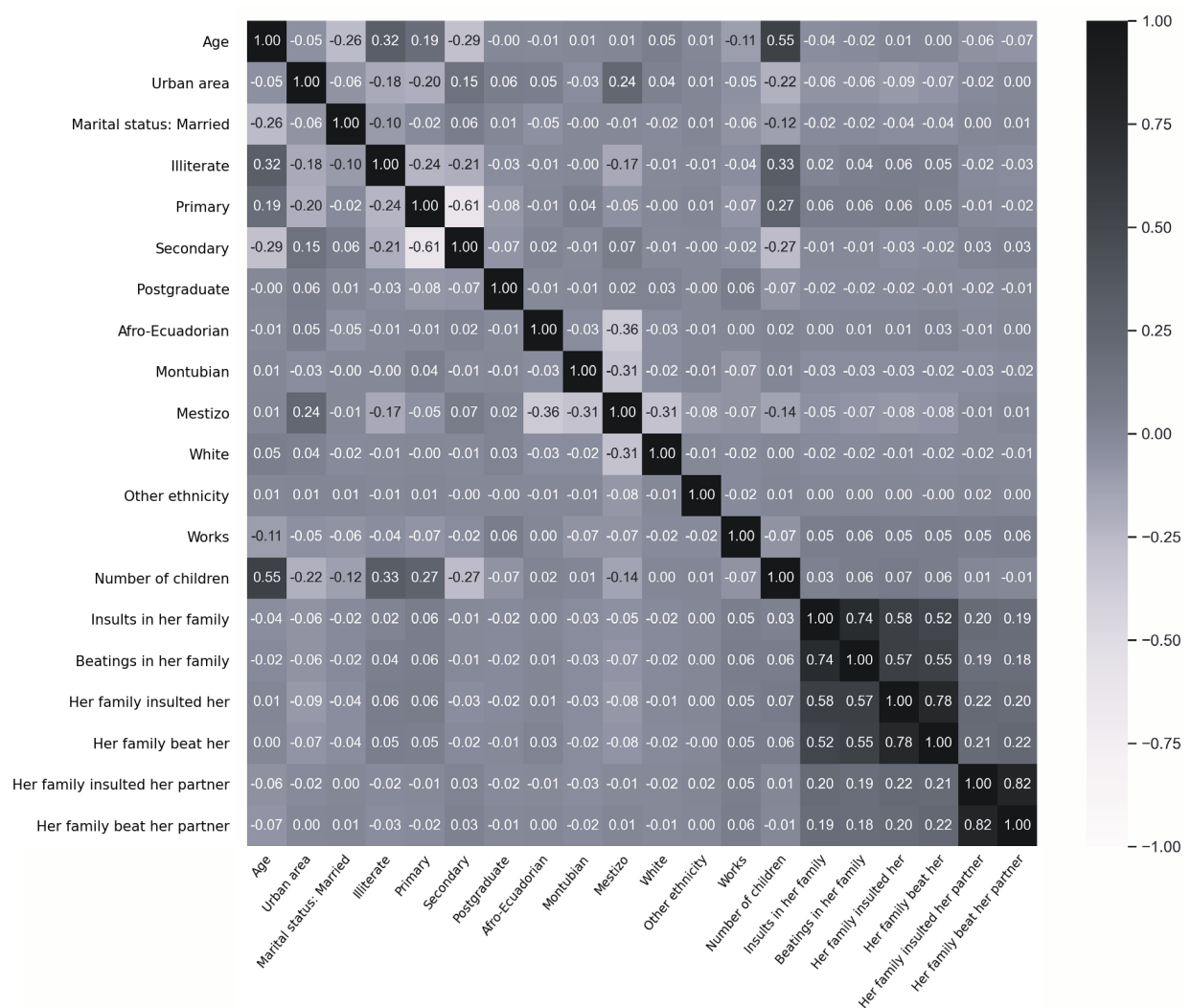
Figure 1C

Correlation matrix of the variables in Model 1



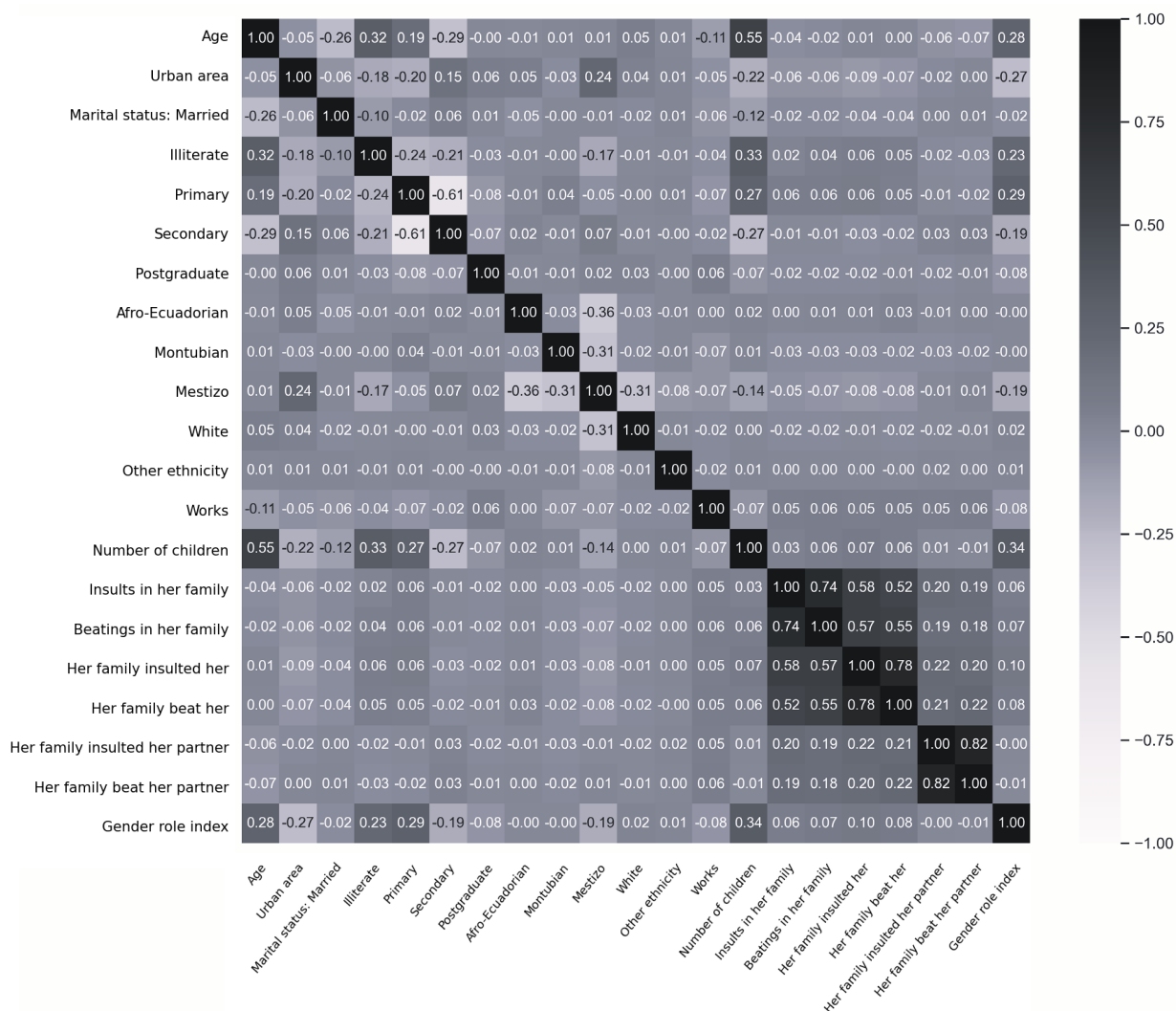
Authors (2025)

Figure 2C
Correlation matrix of the variables in Model 2



Authors (2025)

Figure 3C
Correlation matrix of the variables in Model 3



Authors (2025)

Appendix D. Confusion matrix

Table 1d

Confusion matrix

	Model 1		Model 2		Model 3		
Violence	0	1	0	1	0	1	Total
Has not experienced violence	5,571	1,870	5,362	2079	5,370	2071	7441
Has experienced violence	3,683	2985	2,890	3778	2888	3780	6668
Total	9,254	4855	8,252	5,857	8258	5851	14109
Sensitivity	44.77%		56.66%		56.69%		
Specificity	74.87%		72.06%		72.17%		
Positive Predictive Value	61.48%		64.50%		64.60%		
Negative Predictive Value	60.20%		64.98%		65.03%		
Model Accuracy	60.64%		64.78%		64.85%		

Source: Authors (2025)

Confusion matrices were used to analyze the predictive performance of the models in classifying violence. Models 2 and 3 show an improvement over Model 1, mainly due to an increase in sensitivity.

Appendix E. ROC Curve

Figure 1E

ROC curve for Model 1

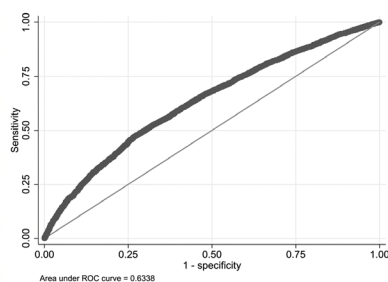


Figure 2E

ROC curve for Model 2

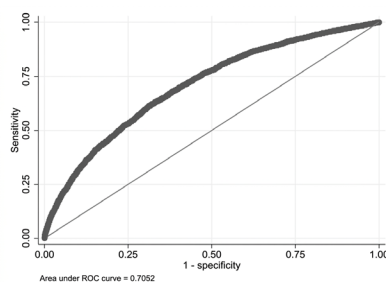
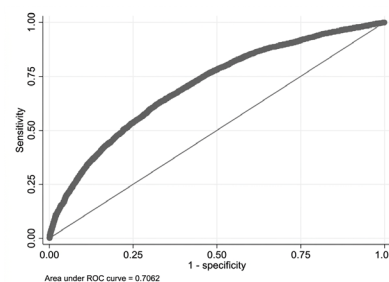


Figure 3E

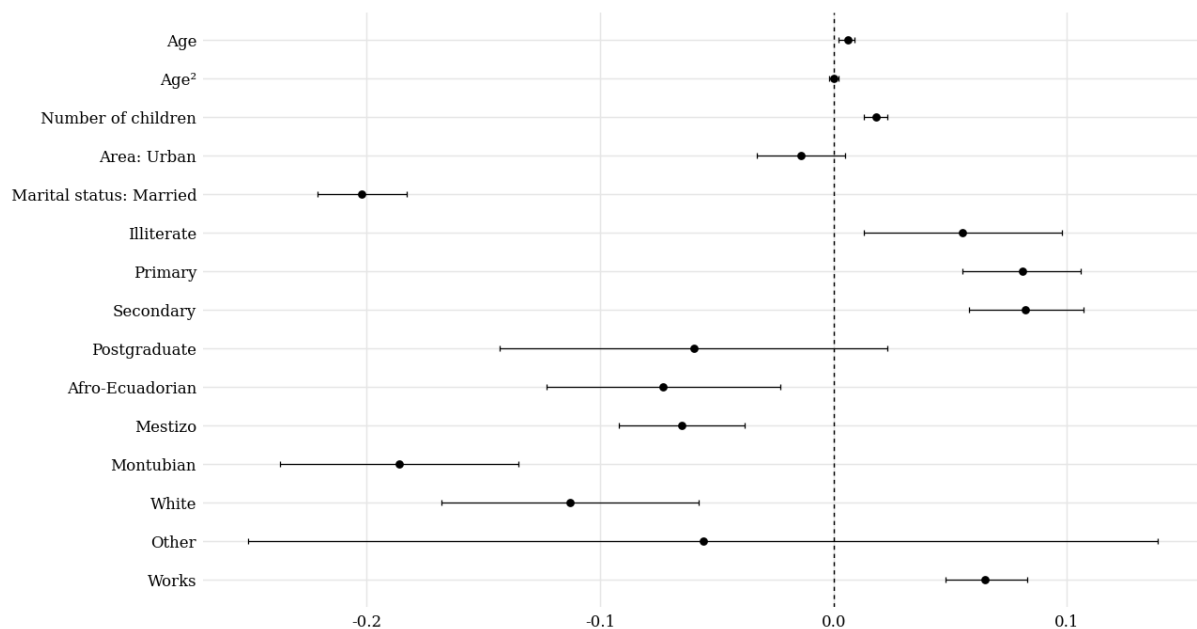
ROC curve for Model 3



The ROC curve evaluates the model's ability to distinguish between positive and negative outcomes across different decision thresholds. The results show that Models 2 and 3 have greater predictive power than Model 1, with similar performance between them.

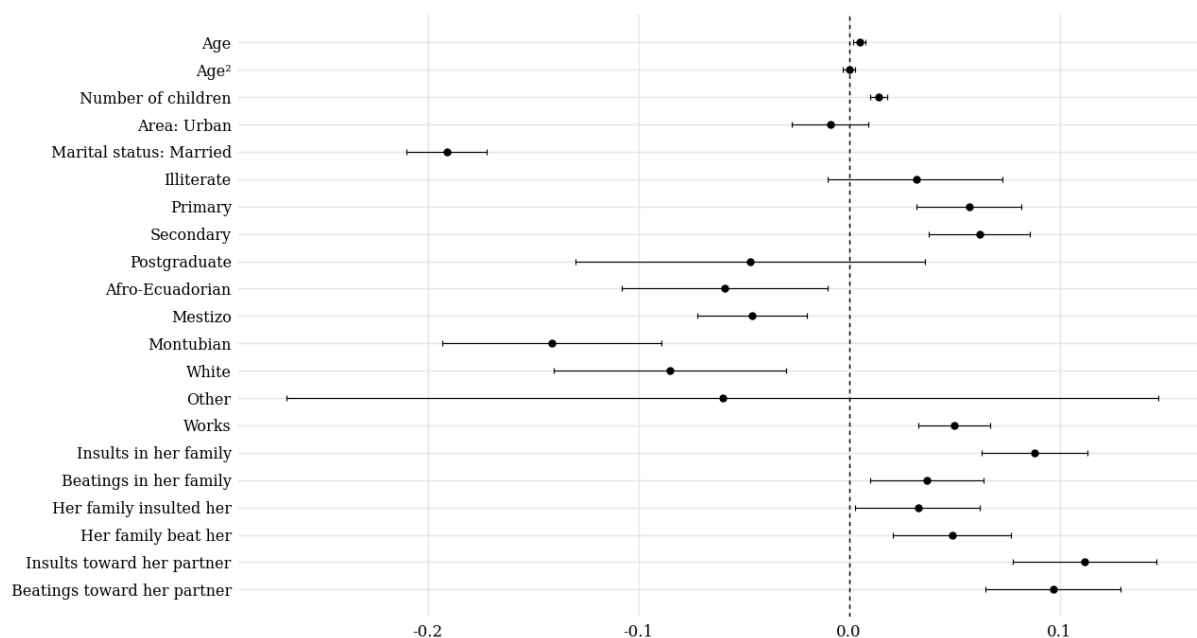
Appendix F. Marginal Effects

Figure 1F
Marginal Effects Model 1



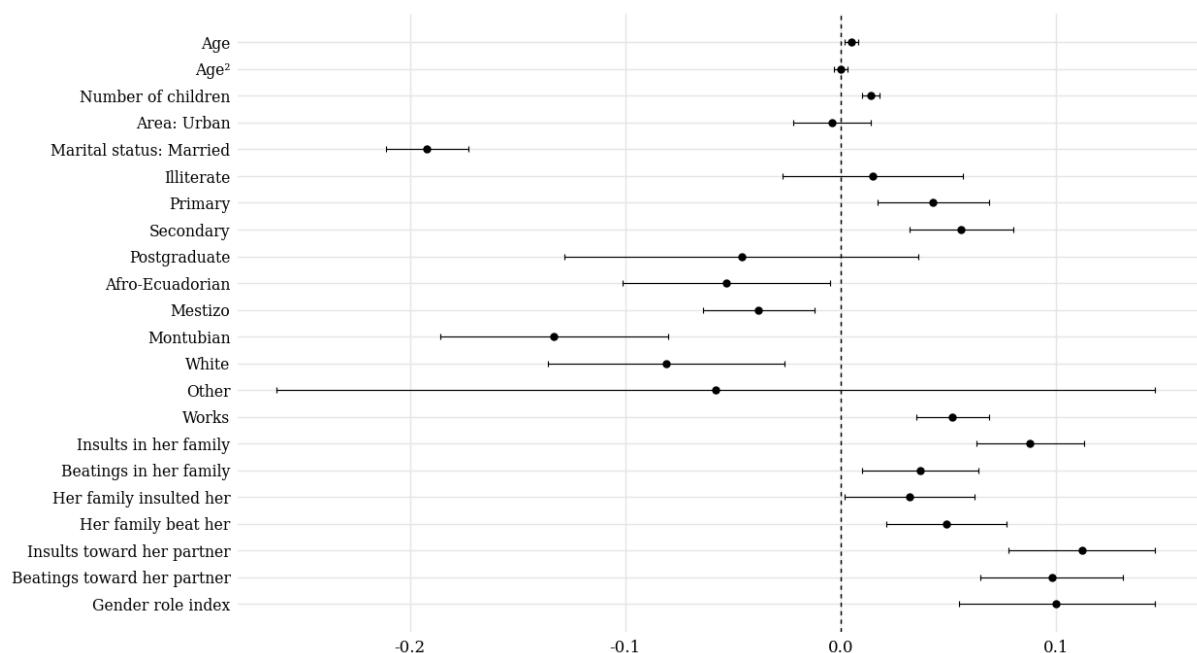
Authors (2025)

Figure 2F
Marginal Effects Model 2



Authors (2025)

Figure 3F
Marginal Effects Model 3



Authors (2025)

The figures show the average marginal effects of the determinants on the probability of intimate partner violence, where values to the right of zero increase the probability and those to the left reduce it. In Model 1, several socioeconomic factors show statistically significant associations with violence. In Model 2, upon incorporating violence in the family of origin, these factors exhibit positive effects, and the direction of the socioeconomic effects remains unchanged. Finally, in Model 3, the gender roles index is positively associated with the probability of violence, suggesting that, in addition to socioeconomic conditions, prior family experiences and gender norms are key components of the phenomenon.