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The role of occupation and domestic laws on tolerance of domestic violence

An analysis in the EU from 1999 until 2016

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Abstract

Domestic violence is a serious social issue with high rates of battered women in all European countries. With the aim to explore the opinions of people regarding the tolerance and unlawfulness of domestic violence, in 1999, 2010 and 2016 the Standard and Special Eurobarometer introduced a survey series that comprehensively describes the level of public opinion on gender-based and domestic violence. The paper consists of an effort to reveal how different factors influence opinions across different times and countries. More specifically, it studies the impact of the type of occupation and domestic laws on the opinions of people on the unlawfulness and tolerance of domestic violence using two different empirical strategies, linear probability model (LPM) specification that includes controls to account for several confounding factors and fixed effects to account for country and year trends and the probit model to analyse the joint behavior of the correlated binary dependent variables of the analysis. It finds that white collars are less likely to accept incidents of domestic violence, while the existence of a law on domestic violence, as well as the perceived prevalence of domestic violence, have a negative relationship with the public acceptance of domestic violence. The gender, nationality, level of education and type of community also, are one of the main the layers of the level of public acceptance of domestic violence. Especially, for an institution such as the EU relevant policy implications should be taken into account by policy makers who wish to create the roadmap for the mitigation of domestic violence.

Keywords: Domestic violence; Laws; Istanbul Convention; Prevalence; Occupation.

Contents

- 1 Acronyms**

- 2 Introduction** **1**

- 3 Literature Review** **4**

- 4 The Istanbul Convention** **8**

- 5 Data and Descriptive Statistics** **9**
 - 5.1 Data 9
 - 5.2 Descriptive Statistics 14

- 6 Empirical analysis** **15**

- 7 Results** **19**
 - 7.1 Main Specification-Prevalence and Trends of Tolerance on Domestic Violence . 19
 - 7.2 Additional Specifications 22

- 8 Robustness checks** **26**

- 9 Conclusion** **27**

- References** **30**

- A Appendix** **33**

1 Acronyms

CEDAW Convention on the Elimination of All Forms of Discrimination Against Women

EC European Commission

EU European Union

FRA European Union Agency for Fundamental Rights

ILO International Labour Organization

LPM Linear Probability model

MS Member State

OECD Organization for Economic Cooperation and Development

OLA Ordinary Least Squares

UK United Kingdom

US United States

2 Introduction

According to the European Commission (*EC*), about 25% of women in Europe experience Domestic violence at some point in their lives, and the annual victims are between 6% and 10% of the female population (2014). In addition, in 2007, 3500 women were murdered due to domestic violence in the European Union (*EU*)¹, and in 2020, according to Eurostat, 788 women were victims of homicide by a family member or intimate partner in 17 EU Member States (*MSs*)². The EU Agency for Fundamental Rights (*FRA*) reveals that 20% of women have experienced physical and/or sexual violence from their current or previous partners and 43% of women have been abused psychologically or been victims of restricted freedom and coercion within a relationship (EU FRA, 2014, Shreeves, 2019). In the United States (*US*), about 4.8 million women experience intimate partner-related physical assaults and rapes every year (Anderberg et al., 2016), with less than 20% of the victims seeking medical treatment following an injury (D.V., 2017). This is not a problem exclusively of western countries, as recent statistics show that one in five women in the Organization for Economic Cooperation and Development (*OECD*) report having experienced intimate partner violence between 2010 and 2017 (2019). Despite these alarming figures, the OECD reports that, on average, still 8% of women between 15 to 49 years old believe that it is acceptable for a husband to hit or beat his wife. Though, there is a large variance in this belief among different countries with only 1% or less in Denmark and Ireland agreeing with that behavior, compared to up to 10% in Spain, 18% in South Korea and 20% in Germany (OECD., 2019).

However, the figures are estimated to be even higher since many cases go unreported. Several studies have shown that in most cases of Violence against women the perpetrator is a family member, and , in these cases, the incident is silenced within the family privacy and remains “behind closed doors” (Gracia, 2004, Arenas-Arroyo et al., 2021). As an example, a study exploiting data of the population in the US, reveals that although, almost 25% of the population is estimated to have experienced domestic and gender-based violence, only a 2.5-15% of the victims report it officially (Bachman and Saltzman, 1995). Thus, despite the serious-

¹DAPHNE, Estimated mortality related to domestic violence in Europe, 2007

²Eurostat, EIGE report 2020, Femicide in 17 EU Member States in 2020, Gender Equality index, <https://eige.europa.eu/gender-equality-index/2022/domain/violence>

ness of gender-based, intimate partner and domestic violence themselves, underreporting is an additional threat that needs to be considered when analyzing the extent and implications of these forms of violence (Ellsberg et al., 2001, Gracia, 2004).

Despite the prevalence of domestic violence across countries, the exact drivers and layers of this phenomenon are still not clear. Although there may be large heterogeneity across different communities, there have been multiple attempts to identify factors that increase the prevalence of domestic violence. Psychologists and sociologists have recurrently pointed to a phenomenon called “male backlash” to explain the persistence of domestic violence in a country after women’s rights are enforced and gender-equal policies are implemented (Alonso-Borrego and Carrasco, 2017). Economists have tried to explain the phenomenon using the theory of “intrahousehold bargaining”, which explains that an increase in the female wage would result in an increase in the bargaining power of women. In this model, men would feel threatened as the power dynamic changes and would react with violence to restore the former order. Conversely, this reaction could also be explained by a decrease in the relative bargaining power of men when they lose their source of income when they become unemployed for example. Others have also, pointed to periods of generalized stress and uncertainty as factors that could increase the number of domestic violence episodes (Arenas-Arroyo et al., 2021).

The goal of the paper is to explain the degree of tolerance towards domestic violence. The analysis is threefold as it considers the role of three factors in determining how tolerant are citizens of a country towards domestic violence. Therefore, I consider the role of occupation, level of perceived prevalence and domestic laws in determining the different levels of tolerance across countries. To do that, I use the Eurobarometer Survey on Domestic Violence that has been conducted in three waves at the years of 1999, 2010 and 2016.

To empirically study the relationship of these factors with the tolerance towards domestic violence across countries, I use ordinary least squares (OLS) specification, and more specifically, I use the linear probability model (LPM) to estimate the probability of the dependent variable being equal to 1 based on a set of explanatory variables. I study the changes in the degree of tolerance in each country across the three waves of the Eurobarometer Survey. Individual

characteristics are used to control for confounding factors. To control for any trends across the EU MSs I introduce country and year fixed effects. Due to the fact that the introduction of a legal framework protecting women from domestic violence took place in different years at each EU MS, I include alternative specifications to identify the effect of a legal framework in place to the degree of tolerance, as well as interaction terms. Lastly, a multivariate probit model is used as robustness checks.

Results show that *white collar workers* are less likely to accept any form of domestic violence with statistical significance at 1% and an estimate β (-0.04), meaning that the *white collar workers* are 4% more likely to be intolerant towards any form of domestic violence. Similar consistency across the exploited empirical strategies is depicted by the *male* variable that remains statistically significant at 1% level and positively associated with the acceptance of domestic violence. The awareness of domestic violence is positively correlated with the intolerance of domestic violence, meaning that the more knowledge people have about how common domestic violence incidents are, the more likely they are to disapprove of them and consider them unlawful actions. This confirms that raising awareness could be an efficient measure to mitigate domestic violence. The level of education, nationality, type of community or marital status of someone influences the opinions of people, however, the importance and level of influence of each factor varies across the different specifications and robustness checks of the paper. Finally, the introduction of a domestic law on domestic violence is correlated with a decrease of public acceptance, and social progress has been made from 1999 until 2016 as over the years domestic violence is tolerated less and less.

This study contributes to the available literature on the determinants of the degree of tolerance towards domestic violence across the EU countries. The main drivers of social attitudes have been hard to be identified while solving for bias and endogeneity. Although, the study does not present causal effects, but rather the correlational relationship of multiple explanatory factors, it consists of an effort to reveal how different factors influence opinions towards domestic violence across different years and countries. Especially, for an institution such as the EU, a mosaic of diverse cultures, relevant policy implications should be taken into account by policy makers who wish to create the roadmap for the mitigation of domestic

violence.

The remainder of the paper is organised as follows. Section 3 reviews the literature on the determinants of domestic violence and gender-based violence, and their association with the labour force participation and role of occupation of men and women as a significant determinant. Section 4 underlines the institutional framework of the Istanbul Convention and the systemic effort to promote women’s rights worldwide and combat domestic violence globally, and especially, in Europe. Section 5 and 6, respectively, review the data and empirical strategy used in the analysis. Section 7 summarizes the main results and the heterogeneity analysis. Section 8 provides a series of robustness checks and Section 9 the conclusion.

3 Literature Review

In this section, I provide a holistic review of the literature related to the main explanatory factors of domestic violence revealed so far and its relationship with occupation, gender norms and women’s rights to unfold the contribution of this paper. According to Doepke et al. (2009), the technological change of the previous century created the proper conditions, by reducing household chores time, and increasing the demand for human capital, for women to enter the labour market. The men (husbands) of that time agreed to grant bargaining power to women (wives) because they believed that this would lead to their children receiving a better education, hence responding to the demand of that time for human capital. The authors argue that through these logical means the technological change led to the improvement of women’s rights.

Geddes and Lueck (2002) provide empirical evidence for these statements by using historical data from the US and England and econometric specifications to claim that the increase in demand for human capital can be linked to the growth of cities and the improvement of women’s rights. A more recent study using data from Turkey shows that increased human capital through years of schooling has led to increased reports of psychological violence (Erten and Keskin, 2018). These studies show how important, but also ambiguous, the relationship between labour force participation and laws is when it comes to empowering women. In this study my efforts focus on revealing the correlational relationship of both the occupational

levels and the existence of laws in shaping social beliefs about domestic violence.

Moreover, given the fact that the study aims to uncover any associations of gender characteristics with domestic violence, it is important to mention that economists have long ago tried to reveal the mechanisms of domestic violence to explain why men become perpetrators of their female partners. The vast majority of research has been inspired by the Psychology and Sociology science that has explained the effect of “male backlash” as the phenomenon of the masculinity of men being threatened and, as a consequence, using violence to restore dominance. An additional reason for domestic violence is “the effect of exposure” that violence occurs due to extended or force cohabitation of the victim and the perpetrator (Macmillan and Gartner, 1999, Luke and Munshi, 2011, Chin, 2012, Bhalotra et al., 2021). Though, the findings of the literature vary with different methods and samples leading to different results concerning the mechanisms of the occurrence of domestic violence.

According to the economic theory of “intrahousehold bargaining” that incorporates violence, an increased level of bargaining power leads to reduced levels of domestic violence. In consistency with this theory, Aizer (2010) uses wage gaps between men and women in specific industries dominated by each gender in the US to prove a positive causal effect between wage gaps and domestic violence. Similar to the approach of this study that uses multiple explanatory variables to explain the associations with domestic violence, Alonso-Borrego et al. (2017) use the instrumental variable method to control for omitted variables and exploit individual-level data of the World Value Survey for Spain. As in the hypothesis of this paper and in accordance to the “male backlash” effect, Alonso-Borrego et al. (2017) prove that the risk of women being abused physically or non-physically is positively associated with the increase in their wages. In addition, the authors show that low levels of education significantly affect the likelihood of a partner being abusive, which is a finding examined in this study as well. Lastly, they claim that the establishment of the Law on Violence against Women in Spain in 2004 led to an increase in police reports, though the effect was mitigated during the Great Recession probably due to reductions in public spending devoted to supporting victims and combat gender-based violence. On a similar note, Anderberg et al. (2016) uses survey data and labour market aggregate statistics in the United Kingdom (*UK*) to expand the intrahouse-

hold bargaining model by presenting a novel theory of domestic violence that incorporates the factor that abuse is not intentional due to asymmetric information. According to this study, male unemployment and female employment have both negative effects on domestic violence. Hence, conditions related to employment and labour force participation of women has long been proven significant in mitigating domestic and gender-based violence.

In order to gain a more holistic understanding of the problem, besides the effects of employment on domestic violence focused on women, it is helpful to differentiate on other family members such as children. A study, in California, structuring the effect of employment as the unemployment rates to predict employment and mass layoffs, reveals that child maltreatment decreases with male employment and increases with female employment (Lindo et al., 2018). Another research shows a positive effect of unemployment on child maltreatment (Frioux et al., 2014), whereas Raissian's study reaches to a negative association between unemployment and child maltreatment (2015). These results vary from study to study, leading to an ambiguous impact of employment on domestic violence both towards women and children.

A distinction can be also drawn between the effects of employment and economic conditions on domestic violence in high and low-income countries. The vast literature cited in the paper uses samples from the US, Canada, European countries and the UK. Bhalotra et al. (2021) exploit representative data from thirty-one (31) low-income countries to explore the relationship between job opportunities and intimate partner violence from 2005 to 2016. A 1% increase in male unemployment leads to a 2.5% increase in physical violence and an increase in female labour participation triggers the "male backlash" effect leading to violence as well. In addition to the impact of employment conditions on domestic violence, a study conducted in Peru accuses the notion of patriarchy and male-centred legislation to explain the high incidents of violence against women (Boesten, 2012). Similarly, Bowlus et al. (2006) explore the relationship between employment and abuse when a law that allows women to divorce is in place. They find that battered women are 1.7 to 5.7 more likely to leave their husbands. The study of Luke et al. (2011) highlights the significance of social change alongside having a law in place in order to avoid the presence of the "male backlash" effect. They reveal that in places such as India where patriarchal structures are dominant and divorce claimed by women

is not socially or legally accepted, an increase in women’s wages leads to the “male backlash” effect, and thus, to higher domestic violence rates.

Moreover, the fact that the working conditions were forced to change and families had to isolate together during COVID-19, brought in light additional research and findings regarding the reasons and implications of domestic violence. Béland et al. (2020) find no association between employment status and working conditions with domestic violence in Canada. Though, they show that the concerns about the loss of social interactions are significant factors positively correlate to concerns such as family stress and domestic violence. As Gelles (1985) explains, domestic violence becomes more common when it remains “behind closed doors”. Arenas-Arroyo et al. (2020) use individual-level data to reveal that the economic stress caused during the lockdown had twice the effect of forced cohabitation on domestic violence. In a previous study using the probit model, the authors conclude with similar results while distinguishing any differences in domestic violence based on the gender of the breadwinner (Arenas-Arroyo et al., 2021).

Finally, other factors have been proven to be key to explaining the occurrence of domestic violence and intimate partner violence. Since the data of *Eurobarometer Survey on Domestic Violence* that I use is very rich in socio-demographic characteristics, and the fact that the research refers to an analysis of a group of European countries, literature that incorporates gender asymmetries in the socioeconomic characteristics of individuals is significant to explore cultural differences in the social and economic roles of both genders. In this framework, Tur-Prats (2021) examines the role of different family types in incidents of intimate partner violence and finds that the male partners who grow up in nuclear family types are more inclined to perceive themselves as the breadwinner according to patriarchal roles. The explanation of this effect is that their stereotype of masculinity is threatened when the female employment improves relative to male employment, leading to an increase in domestic violence. Card and Dahl (2011) use information from football matches in the UK and conclude that reports of domestic violence increase when an important game expected to be gained is lost due to emotional cues of male football fans.

Hence, previous literature has focused mainly on the drivers that could explain the prevalence

of domestic violence in all countries and even on those who score high in gender-equality indexes. This paper, however, aims to provide a detailed analysis of the factors that could help explain the degree of tolerance towards domestic violence across countries. This is a unique contribution to the literature which aims to inform policymakers of the evolution of the degree of tolerance and the support towards the ratification of the Istanbul Convention and the establishment of a legal framework on domestic violence.

4 The Istanbul Convention

Given the importance of laws on mitigating domestic violence and gender-based violence, this study takes advantage of the fact that the main variable explains the opinions of people towards domestic violence and whether they believe it consists of a crime that should be framed under relevant law. Since the paper aims at unfolding the impact of a law in place in peoples' opinions, it is important to take into account the political and legal improvements that have taken place globally, but mostly in the EU the last years, setting the introduction and ratification of the Istanbul Convention as milestones.

Gender equality and violence against women have been on international and European agendas since 1979 with the UN Convention on the Elimination of All Forms of Discrimination Against Women (*CEDAW*). Later in 1992, the Committee of the Convention established the definition of "Gender-based violence against women", though all the efforts have focused mostly on establishing equal opportunities and rights for women without addressing explicitly the issue of domestic violence. These conventions do not refer to recognizing the relationship dynamics of intimate partner violence, providing legal protection and support to victims of domestic violence, or suggesting preventive regulations (De Vido, 2016). Epstein (1999) argues that governments have delayed taking sufficient measures related to a comprehensive legal framework, leaving victims unprotected, trapped in abusive relationships, and judges and police staff have been unable to understand the psychological and systemic dynamics of domestic violence. The policies of the EU have been criticized by activists and feminists for the same reason; although the EU has been establishing strategies, promoting gender equality and job opportunities for women and eliminating the gender wage gap, all initiatives had

been lacking a binding or non-binding legal framework for condemning domestic violence and intimate partner abuse.

The first international and European attempt to differentiate gender-based violence from domestic violence and address appropriately the legal framework for domestic violence has been the establishment of the Istanbul Convention introduced by the Council of Europe in 2011. The Istanbul Convention contains Articles referring to physical, psychological, sexual or economic violence against women and other forms of violence such as threats, coercion or restriction of freedom, including domestic violence whether it takes place in private or in public, between former or current partners or family members. The ratification of the Convention in 2016 has been an important and concrete step toward a comprehensive legal framework for the EU to tackle structural violence against women (De Vido, 2016). Until today, all the MSs of the EU, except Bulgaria, Latvia, Lithuania and Hungary, have proceeded with the ratification of the Convention and set it into force (**CETS**). Last but not least, it was just in March 2020 when the European Commission established the Gender Equality Strategy 2020-2025³, and in March 2022 the Directive of the European Parliament and of the Council on combating violence against women and domestic violence⁴. These along with the ratification of the Istanbul Convention has been unprecedented concrete steps of the EU towards a legally binding framework to prevent domestic violence and protect victims.

5 Data and Descriptive Statistics

5.1 Data

The primary data I use is part of the Standard and Special Eurobarometer survey series that comprehensively describes the level of public opinion on gender-based and domestic violence. The series was conducted by the EC in 1999, 2010 and 2016 at all countries being members of the EU at each period. The respondents were questioned about the perceived prevalence

³Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions; A Union of Equality: Gender Equality Strategy 2020-2025, (2020). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0152>

⁴Proposal for a Directive of the European Parliament and the of the Council on combating violence against women and domestic violence (2022). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0105>

of domestic violence, familiarity with victims of domestic violence, and attitudes toward the likelihood, unlawfulness, and acceptance of gender-based and domestic violence. In addition, the cross-sectional data contains rich demographic and other background information at the individual level allowing to control for characteristics like marital status, gender, size of household, region of residence, nationality, type of community (rural vs urban), education level, age, and occupation level of the individuals.

To be more specific, I have created dummies to describe if someone completed a postgraduate degree (*highly educated*, takes the value 1 if they do, and 0 otherwise), if someone completed an undergraduate degree (*middle education*, takes the value 1 if they do, and 0 otherwise), and if they only attended high school or graduated high school but did not pursue higher levels of education (*low education*, takes the value 1 if they do, and 0 otherwise). Similarly for the type of community, respondents are categorised into living in *urban*, *small town*, or *village* type of community according to their responses to the survey; the personal perception was taken into account of the respondent and not the number of population of the region etc.. The marital status of individuals is broken down as *married*, *single* or *divorced*, the parenthood is represented by the variable *kids* which takes the value 1 if they have kids and 0 otherwise.

The sample consists of 71,301 individuals who were interviewed across the three waves of the survey. The selection was systematic with probability proportional to population size, from sampling frames stratified by the degree of urbanization. The sample is representative of the population of each country. The number of respondents per country is 1000 each year, except for Northern Ireland (300), Germany with separate samples for the Eastern (500) and the Western part (1000), and Luxembourg, Cyprus and Malta (500) each. Moreover, the data were collected with uniform instructions in all countries from in-person interviews in people's houses in the respective national language. The results presented in the next section are representative of each country since the Standard and Special Eurobarometer datasets provide post-stratification weighting, adjusting for unequal selection probabilities, and population size weighting.

In addition, I use as a measure of how common people believe domestic violence is, the

perceived prevalence. This variable of the dataset is a categorical one (*a. very common, b. fairly common, c. not very common and d. not at all common*); I create a binary variable (*Perc. prevalence*) that takes the value 1 when the respondents choose either *a.* or *b.*, and 0 otherwise. That way, the paper helps of understanding how raising awareness and shaping the perceived prevalence of a social issue could help as an effective policy measure.

In addition, as one of the focuses of this paper is to understand the relationship between occupation level and social attitudes toward domestic violence, I take advantage of the information provided by the survey to understand how different occupations can help explain the degree of tolerance towards domestic violence. To do so, I classify individuals into white and blue collar workers. According to Autor and Dorn (Autor and Dorn, 2013):

“Blue collar” jobs are typically characterized by manual labor, involving physical effort and skill, and are often associated with occupations in construction, manufacturing, and transportation. “White-collar” jobs, in contrast, are typically characterized by non-manual labor, involving mental effort and skill, and are often associated with occupations in management, finance, and professional services.

The three waves of the Eurobarometer Survey provide the occupation of the respondents broken down in eighteen (18) categories. Given the definition of Autor and Dorn (2013) I have categorised the respondents into white collars and blue collars, while excluding the answers coded as: *Responsible for ordinary shopping, Student, Unemployed or temporarily not working, Retired or unable to work through illness* in order to focus on the effect of the labor force participation.

White collars:

- Professional (lawyer, medical practitioner, etc.),
- Business proprietors, owner (full or partner) of a company,
- Employed professional (employed doctor, lawyer, etc.,
- General management, director or top management
- Middle management, other management,

- Employed position, working mainly at a desk,
- Employed position, not at a desk, but in a service job,
- Employed position, not at a desk, but travelling.

Blue Collars:

- Farmer,
- Fisherman,
- Employed professional (employed doctor, lawyer, etc.,
- Owner of a shop, craftsmen, other self employed,
- Skilled manual worker,
- Other (unskilled) manual worker, servant,
- Employed position, not at a desk, but in a service job,
- Employed position, not at a desk, but travelling.

Since the countries who are members of the EU and, thus surveyed in the different waves of the Eurobarometer, have changed over time, I only keep the countries which are observed in all three waves (see Table 1). Next, I only keep the observations for white and blue collar workers, since this is the subgroup of the population I am interested in. Therefore, I drop all the individuals who are unemployed, providing unpaid domestic work, retired or students to focus on the labor force of the country (actively employed individuals). The sample size is consequently reduced to 22,728 individuals from 15 different MSs of the EU ⁵.

As presented in the Ttest analysis in the Appendix (Table 6) the blue collar and white collar workers are statistically different in individual characteristics which could explain different attitudes towards domestic violence, therefore I include variables of individual characteristics as controls. These controls are gender, marital status, educational level, parenthood and type of community.

⁵Although the UK has no longer been a member of the EU since January 31, 2020 at midnight (CET), the sample of the country is included in the dataset and the analysis because of the long term membership during the years of interest of the survey Direct, 2022

In addition, I have information regarding which country was each interview conducted, as well as the nationality of each individual. Especially the variable *nationality* is included in the methodology to control for cultural trends among individuals. The variable *country* and *nationality* differ given that the country of residence and nationality of the individuals is not the same across all respondents.

The dependent variable used in the analysis to measure the social attitudes towards the legal framework on domestic violence is the categorical variable that includes the following options;

1. Accept domestic violence in all circumstances,
2. Accept domestic violence in certain circumstances,
3. Don't accept domestic violence but should not always be illegal,
4. Don't accept domestic violence in all circumstances and should always be illegal.

The respondents were asked to express their opinion on the tolerance and unlawfulness of domestic violence by choosing one of the four options of the categorical variable. In this paper, I have re-categorized the variable into a binary variable that takes the value 1 when the individual answers one of the options one (1), two (2) or three (3), and the value 0, otherwise. That way, the individuals are split into two groups; those whose opinions align with the belief that domestic violence is an unlawful act under any circumstances and those who would excuse its occurrence or at least would not consider it a criminal act that requires a sufficient legal framework, hence they reveal a form of tolerance towards domestic violence. Lastly, an important limitation of the study that should be taken into account is the dataset is a product of face-to-face interviews where people were asked to report their opinions. Therefore, the information shared by the individuals might be subject to social desirability bias as well as the personal perception of reporting information about their status and social opinions, instead of objective facts.

	Domestic Violence					
	Don't accept		Accept		Total	
	No.	%	No.	%	No.	%
Countries						
France	1,198	79.5	309	20.5	1,507	100.0
Belgium	1,005	69.7	436	30.3	1,441	100.0
The Netherlands	1,125	72.0	437	28.0	1,562	100.0
Germany	1,703	72.3	652	27.7	2,355	100.0
Italy	1,289	85.5	219	14.5	1,508	100.0
Luxembourg	578	75.3	190	24.7	768	100.0
Denmark	1,174	75.8	374	24.2	1,548	100.0
Ireland	1,469	69.0	661	31.0	2,130	100.0
Great Britain	1,171	76.0	369	24.0	1,540	100.0
Greece	853	90.8	86	9.2	939	100.0
Spain	1,044	87.4	151	12.6	1,195	100.0
Portugal	1,091	77.5	317	22.5	1,408	100.0
Finland	965	69.1	431	30.9	1,396	100.0
Sweden	1,382	84.6	252	15.4	1,634	100.0
Austria	1,377	76.6	420	23.4	1,797	100.0
Year						
1999	4,850	60.3	3,193	39.7	8,043	100.0
2010	6,197	84.9	1,105	15.1	7,302	100.0
2016	6,337	86.4	1,006	13.6	7,383	100.0
Total	17,424	76.7	5,304	23.3	22,728	100.0

Table 1: Domestic violence accepted across the EU countries and waves of the survey

5.2 Descriptive Statistics

Although the percentage of individuals that accept domestic violence was up to on average 39.7% in 1999 for the 15 Member states, this rate shrank to 15.1% in 2010 and 13.6% in 2016. Hence, there is an evident change in average social opinions over the years across the 15 EU MSs. When zooming on the percentage of acceptance of domestic violence per country, on average, 1 in 4 people in the 15 EU MSs would excuse the occurrence of domestic violence incidents. The Netherlands has a national acceptance rate of up to 28%, Germany 27.7%, Belgium 30.3%, Finland 30.9%, and Ireland, with the highest in the EU, up to 31%. In addition, statistical differences are evident among different levels of occupation. As it is seen in Table 2, the white collar workers are less likely to accept domestic violence comparing to blue collar workers, though these statistical differences are small in this sample with 21.5% of white collars and 27% of blue collars accepting domestic violence.

Table 3 provides information about the acceptance rate of domestic violence among the different groups of the population. As for the perceived prevalence of domestic violence, those

	Domestic Violence					
	Don't Accept		Accept		Total	
	No.	%	No.	%	No.	%
White collars	11,986	78.5	3,290	21.5	15,276	100.0
Blue collars	5,438	73.0	2,014	27.0	7,452	100.0
Total	17,424	76.7	5,304	23.3	22,728	100.0

Table 2: Domestic violence accepted across white and blue collar workers

who believe that it happens often have 79,1% likelihood of not accepting any form of it and consider it as a criminal act that should be included in domestic law. Although, the high perceived prevalence has higher percentages of disapproval, even those who do not believe that it is an incident that happens commonly, have 69,6% likelihood to disapprove as well.

The highest differences between the degree of tolerance are found at the gender and educational level; the male population is 6% more tolerant than the female one, and the least educated ones (*Low*) are 5% more tolerant than the most educated ones (*High*).

Surprisingly, the younger generation has a higher acceptance rate of domestic violence than any other age group older than 25 which could be explained as a result of ignorance as also argued in the Special Eurobarometer 449 Report, the report of the third wave of the survey (Commission, 2016). However, there are no significant differences in the degree of tolerance of domestic violence across the different marital status: *single, married and divorced* individuals have similar opinions towards tolerance of domestic violence with the divorced ones being just 1% less tolerant.

6 Empirical analysis

Understanding the precise mechanisms inducing domestic violence and preventing it could be key to the EU and MSs' gender equality agendas. Social attitudes are hard to be estimated due to omitted confounding factors and limited behavioural information, though, at the same time, any effort to reveal the main drivers of social attitudes and public opinions could be vital to realise the layers of such a complex social problem as domestic violence. The sample of the data refers to all the European countries (see Table 1) that differ greatly on a cultural, socio-economic and political level.

	Domestic Violence					
	Don't Accept		Accept		Total	
	No.	%	No.	%	No.	%
Perceived prevalence						
Not common	4,029	69.6	1,763	30.4	5,792	100.0
Common	13,395	79.1	3,541	20.9	16,936	100.0
Gender						
Male	8,823	73.9	3,123	26.1	11,946	100.0
Female	8,601	79.8	2,181	20.2	10,782	100.0
Community Type						
Urban	5,336	75.8	1,701	24.2	7,037	100.0
Midtown	6,458	77.8	1,839	22.2	8,297	100.0
Rural	5,616	76.1	1,760	23.9	7,376	100.0
Age Scale						
15 - 24 years	1,185	73.1	437	26.9	1,622	100.0
25 - 39 years	6,475	76.2	2,019	23.8	8,494	100.0
40 - 54 years	6,770	77.7	1,947	22.3	8,717	100.0
55 years and older	2,994	76.7	901	23.1	3,895	100.0
Educational Level						
High	9,140	78.2	2,552	21.8	11,692	100.0
Middle	6,717	75.5	2,178	24.5	8,895	100.0
Low	1,283	71.2	519	28.8	1,802	100.0
Marital Status						
Married	12,064	76.9	3,628	23.1	15,692	100.0
Single	3,473	76.9	1,042	23.1	4,515	100.0
Divorced	1,730	75.8	553	24.2	2,283	100.0
Total	17,424	76.7	5,304	23.3	22,728	100.0

Table 3: Descriptive Statistics: Domestic violence accepted across individual characteristics

My main outcome of interest is a binary variable that takes the value 1 when people express that they would tolerate a form of domestic violence and 0 otherwise. Therefore, I decide to use a linear discrete probability model (*LPM*) to study how different factors are influencing the main outcome binary variable. The study is a correlational analysis that focuses on detecting the influence of occupation level (*white collar VS blue collar workers*) of men and women on public opinion about domestic violence and the establishment of a legal framework to mitigate its occurrence. Therefore, my empirical specification is the following:

$$DVT_{i,\alpha,y} = \beta_0 + \beta_1 whitecollars_{i,\alpha,y} + \beta_2 perceivedprevelance_{i,\alpha,y} + \beta_3 X_{i,\alpha,y} + \gamma_\alpha + \theta_y + \omega_{\alpha,y} + \epsilon_i \quad (1)$$

where variable $DVT_{i,\alpha,y}$ is my main outcome of interest for respondent i from country α on survey year y . The variable takes the value 1 when the individual tolerates forms of

domestic violence in some or all circumstances or does not consider them unlawful. My main explanatory variables are $whitecollars_{i,\alpha,y}$, a dummy variable that takes the value 1 when the individual engages in non-manual labor, involving mental effort and skill, and 0 when the individual engages in manual labor, typically in the agriculture, manufacturing, construction, mining, or maintenance sectors (Autor and Dorn, 2013). My variable $perceivedprevalance_{i,\alpha,y}$ measures the individuals' beliefs on the commonness of domestic violence. $X_{i,\alpha,y}$ is a vector of individual-level control variables such as gender, level of education, type of community, type of family/marital status and parenthood.

I then include the γ_α and θ_y that are country and year fixed effects to take into account different trends across the countries and common time trends, respectively. Finally, $\omega_{\alpha,y}$ are specific country-year fixed effects that control for country-specific yearly trends.

However, like other researchers that have faced difficulty trying to detect causality between employment indicators and domestic violence, in my case as well, there is a risk of potential endogeneity of these factors and bias from omitted variables. To be more specific, unobserved confounding factors such as cultural norms, historical family types, socioeconomic background or personality traits may affect people's opinions about domestic violence and its unlawfulness, and might as well correlate with employment choices. In my effort to control for the omitted variables bias, I include a rich list of social and demographic factors such as years of education, size of household, age, gender, marital status, family type (if someone has kids or not), and type of community. My main identification strategy, also, exploits information about the nationality of the individuals to account for cultural trends. In subsection 6.2 and section 7, I conduct heterogeneous effects and robustness checks related to the implementation of the law about domestic violence in the European MSs, as well as I exploit a probit model over the sample in my endeavours to analyse the effects of multiple predictors on the variable of interest and to account for non-linear relationships in the model.

	(1)	(2)	(3)	(4)	(5)	(6)
	acceptable	acceptable	acceptable	acceptable	acceptable	acceptable
White collars	-0.0491*** (0.000)	-0.0537*** (0.000)	-0.0411*** (0.000)	-0.0398*** (0.000)	-0.0251*** (0.000)	-0.0244*** (0.000)
Perceived prevalence	-0.0892*** (0.000)	-0.0781*** (0.000)	-0.0788*** (0.000)	-0.0695*** (0.000)	-0.0751*** (0.000)	-0.0683*** (0.000)
Male	0.0390*** (0.000)	0.0412*** (0.000)	0.0436*** (0.000)	0.0440*** (0.000)	0.0372*** (0.000)	0.0376*** (0.000)
High education			-0.0176** (0.010)	-0.0176** (0.010)	0.00868 (0.616)	0.00826 (0.243)
Low education			0.0620*** (0.000)	0.0638*** (0.000)	0.0219** (0.006)	0.0236 (0.054)
Married			-0.0326** (0.001)	-0.0335*** (0.001)	-0.0148* (0.031)	-0.0157 (0.081)
Single			-0.0211 (0.068)	-0.0217 (0.060)	-0.0198 (0.080)	-0.0169 (0.113)
Urban comm.			0.0194** (0.008)	0.0201** (0.006)	-0.0194*** (0.462)	-0.0184*** (0.006)
Rural comm.			0.00516 (0.476)	0.00643 (0.375)	-0.00915 (0.241)	-0.0081 (0.142)
Kids			0.00753 (0.239)	0.00620 (0.332)	-0.00377 (0.771)	-0.00454 (0.350)
<i>Nationalities</i>	No	Yes	Yes	Yes	Yes	Yes
<i>Indiv.controls</i>	No	No	Yes	Yes	Yes	Yes
<i>CountryFE</i>	No	No	No	Yes	No	Yes
<i>YearFE</i>	No	No	No	No	Yes	Yes
<i>N</i>	22,728	22,728	22,728	22,728	22,728	22,728
<i>R²</i>	0.016	0.033	0.036	0.040	0.078	0.113
<i>F</i>	95.19	37.86	30.02	31.82	65.33	79.22

p-values in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Main specifications results

7 Results

7.1 Main Specification-Prevalence and Trends of Tolerance on Domestic Violence

My results of the main specification are presented in Table 4. For the purposes of comparison among the two different types of occupation, and to avoid collinearity, I have only introduced the variable $whitecollars_{i,\alpha,y}$ in the regressions; the blue collars are not included. The first column represents the naive baseline regression, with no fixed effects or individual and nationality controls, which reveals significant levels of influence among the white collar workers, level of perceived prevalence and gender with the tolerance towards domestic violence. The $whitecollars_{i,\alpha,y}$ of the sample as well as those who acknowledge the occurrence of domestic violence in the first column, but also across all the columns of the table, are less likely to accept any form of domestic violence. The main explanatory variable has statistical significance at 1% level and an estimate β_1 (-0.04) in the first column, the interpretation of which is that white collar workers are by 4% less likely to accept domestic violence. Similar consistency is depicted by the *Male* that remains statistically significant at 1% level and positively associated with the acceptance of domestic violence across all regressions, with an estimate β_3 (0.03) in the first column. In the second column, I have introduced the variable of the nationalities of each participant to control for any cultural trends, however, it does not influence the levels of significance of the *white collar workers*, the *perceived prevalence* and the *male* variables. The only difference is that the effect of the level of *perceived prevalence* and white collar worker slightly decreases the likelihood of accepting domestic violence, whereas the effect of the *Male* slightly increases it.

In the third column, I have added individual-level control variables for sociodemographic factors that might influence the opinions of people. As Alonso-Borrego et al. (2017) show that lower levels of education are positively associated with an increase of domestic violence, my results prove that the relationship between the tolerance of domestic violence and people who have acquired a lower level of education is statistically significant at 1% level and positive with an estimate of β_3 (0.06); those who have received lower levels of education are by 6% more

likely to accept domestic violence. On the contrary, the variable *Higheducation* is statistically significant at 1% with an estimate β_3 (-0.01). This means that the more years of education someone has followed, the less likely they are to accept any form of domestic violence, and vice versa. Moreover, the type of community that someone lives in plays a key role in shaping social opinions; those who claimed to live in big cities (urban communities) are more likely to be tolerant towards domestic violence. However, although the variable *Ruralcommunity*, standing for someone who is part of a small community (village), is positively associated with the dependent variable, it is not significant across all regressions of the results of the main specifications. As for marital status, both single and married people are less likely to accept any form of domestic violence, though only the married ones are statistically significant with coefficient β_3 (-0.03).

In columns (4)-(6) I include the country fixed effects, year fixed effects and country-year fixed effects to help control for unobserved factors. The *white collar worker* remains negative and significantly correlated to the acceptance of domestic violence with small variations in the estimates across the columns. To be more specific, when the country fixed effects are introduced into the regression, in column (4), the estimate of the *white collar workers* is reduced to β_1 (-0.04) at 1% level of statistical significance. The addition of the year fixed effects results in an even lower estimate with a value of β_1 (-0.025). The inclusion of both country and year fixed effects could mean that country characteristics, the levels of participation of both genders, shocks at a country and year level influence the estimate of *white collar workers* while decreasing its impact on the opinions shaped about domestic violence.

The inclusion of the fixed effects in columns (5) and (6) reduce the statistical significance of the levels of education; the highly educated people are no more statistically significant, and the less educated people are less likely to accept domestic violence with an estimate of β_3 (0.002) and statistical significance at 10% at column (5). It is noticeable that the inclusion of all fixed effects in column (6) changes the relationship of the high levels of education with the $DVTi, \alpha, y$ and has estimate β_3 (0.008), meaning that other factors than the educational levels included in the fixed effects mainly drive the social opinions related to the acceptance of domestic violence. The variable *Marriedi, \alpha, y* becomes significant at 10% statistical level

and has a smaller coefficient at column (5), while it loses statistical significance at column (6). Overall the inclusion of the fixed effects mitigates the effects of the explanatory variables on the dependent variable.

Furthermore, the gender variable $Malei, \alpha, y$ remains constantly statistically significant at 1% level across all columns of the main specifications and with positive estimates that do not vary much. The inclusion of the nationality of the individuals leads to a small increase of the estimate of the $Malei, \alpha, y$ (0.04), whereas the country and year fixed effects lead to a small drop of the estimate up to (0.03) at column (6). These findings explain that there is a difference between the social opinions of women and men, as the latter are more likely to find excuses and accept forms of domestic violence. This is consistent with the literature presented in the paper highlighting the high percentages of male perpetrators, the “male backlash” effect and high intimate partner violence statistics globally. This means that the social attitudes allowing for the occurrence of domestic violence and opposing a legal framework for its mitigation are aligned with the persistence of high percentages of battered women and experiencing domestic violence. As several studies have shown, in most cases of violence against women the perpetrator is a family member (Gracia, 2004, Arenas-Arroyo et al., 2021).

Last but not least, the factor that remains equally significant at a statistical level of 1% in all six columns is the perceived prevalence of domestic violence. Individuals that agree with the occurrence of domestic violence are highly possible to be intolerant towards any form of domestic violence and recognise it as an unlawful act. The inclusion of fixed effects leads to only a small decrease of the levels of the estimate of the perceived prevalence; the estimate of *perceived prevalence* is between (-0.06) and (-0.08) at all (6) columns. This strong correlation between the *perceived prevalence* of domestic violence and the acceptance of its unlawfulness brings to light a dimension of linkages among social attitudes and their formation through awareness and access to information since it reveals that the levels of social awareness and the knowledge on an issue shape the criteria, norms and ethical beliefs of individuals and as a sequence the society as a whole. This consistent finding of the results of the main specification could imply a validation for policies that aim on raising awareness regarding social issues,

reduce the stigma of people and most significantly bring into light what is happening behind closed doors.

7.2 Additional Specifications

In this sub-section, I present the results of alternative specifications to elaborate on a better interpretation of the results of the main empirical strategy. My efforts focus on controlling for omitted variables bias and thus, I include in Equation (1) information such as the existence of a law explicitly recognizing the term domestic violence in each one of the European countries I have included in the study. $LAW_{i,\alpha,y}$ is a dummy variable that takes the value 0 if no domestic law about domestic violence is in place, and 1 if there is a binding legal framework recognising the term and special challenges of the domestic violence in a country at the year of each wave of the survey.

The Equation of the specification now becomes:

$$DVT_{i,\alpha,y} = \beta_0 + \beta_1 whitecollars_{i,\alpha,y} + \beta_2 prevelance_{i,\alpha,y} + \beta_3 X_{i,\alpha,y} + \gamma_\alpha + \theta_y + \beta_4 LAW_{i,\alpha,y} + \omega_{\alpha,y} + \epsilon_i \quad (2)$$

Column (1) of Table 5 is column (6) of Table 4 and is used to facilitate the comparisons across all the different additional specifications. At this stage, I include the nationality of the individuals, the individual characteristics controls as well as all the country, year and country-year fixed effects across all the regressions. The introduction of the variable $LAW_{i,\alpha,y}$ in column (2), does not alter the results significantly. The $LAW_{i,\alpha,y}$ remains insignificant and negatively associated with the $DVT_{i,\alpha,y}$, which means that when a domestic law is in place, individuals are less likely to tolerate any form of domestic violence. However, its estimate is very small with β_4 being up to (0.003), and only slightly decreasing across columns (3) and (4). This means, that although the introduction of a law on domestic violence can have a positive impact on public opinion, the paper reveals that it does not show any statistically significant correlation.

Therefore, my efforts to reveal what drives the social opinions related to the levels of accep-

	(1)	(2)	(3)	(4)
	acceptable	acceptable	acceptable	acceptable
White collars	-0.0244*** (0.000)	-0.0243*** (0.000)	-0.00476 (0.664)	-0.0242*** (0.000)
Perceived prevalence	-0.0683*** (0.000)	-0.0685*** (0.000)	-0.0687*** (0.000)	-0.0764*** (0.000)
Male	0.0376*** (0.000)	0.0377*** (0.000)	0.0594*** (0.000)	0.0378*** (0.000)
High education	0.00826 (0.243)	0.00833 (0.244)	0.00869 (0.222)	-0.00259 (0.730)
Low education	0.0236 (0.054)	0.0238 (0.054)	0.0247* (0.046)	0.0239 (0.053)
Married	-0.0157 (0.081)	-0.0155 (0.079)	-0.0154 (0.080)	-0.0155 (0.078)
Single	-0.0169 (0.113)	-0.0167 (0.112)	-0.0171 (0.104)	-0.0169 (0.109)
Urban comm.	-0.0184*** (0.006)	-0.0187** (0.006)	-0.0185** (0.007)	-0.0185** (0.007)
Rural comm.	-0.0081 (0.142)	-0.0087 (0.148)	-0.0089 (0.140)	-0.0087 (0.147)
Kids	-0.00454 (0.350)	-0.00458 (0.349)	-0.00462 (0.345)	-0.00448 (0.358)
law		-0.01192 (0.749)	-0.01207 (0.752)	-0.01208 (0.753)
whitecollars##male			-0.0312** (0.010)	
prevalence##high education				0.0145 (0.249)
<i>Nationalities</i>	Yes	Yes	Yes	Yes
<i>Indiv.controls</i>	Yes	Yes	Yes	Yes
<i>CountryFE</i>	Yes	Yes	Yes	Yes
<i>YearFE</i>	Yes	Yes	Yes	Yes
<i>N</i>	22,728	22,728	22,728	22,728
<i>F</i>	79.22	76.79	74.46	74.39

p-values in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Additional specifications results

tance of domestic violence extend to columns (3) and (4) of Table 5. To be more specific, given that both the $whitecollarsi, \alpha, y$ and $Malei, \alpha, y$ variables are significant at 1% statistical level, I introduce their interaction term in column (5). The interaction term is significant at 5% level and has a coefficient (-0.03). That means that highly skilled men are 3% less likely to accept domestic violence. The interaction term captures the relationship between the level of occupation of someone and their gender. The study reveals that there is a common channel impacting the opinions of people. The introduction of the interaction term affects the $whitecollarsi, \alpha, y$ by eliminating its significance and mitigating its impact on the dependent variable. On the other hand, the variable $Malei, \alpha, y$ remains significant at 1% statistical level and while its coefficient is almost double, β_3 up to (0.06).

Last but not least, in column (4), I introduce another interaction term to explore further the relationship between the level of prevalence and highly educated people. According to the results, the social attitudes of highly educated people do not interact with the *perceived prevalence*, meaning that the opinions of someone who has acquired a graduate degree towards the levels of acceptance and unlawfulness of domestic violence are not impacted by the recognition of the occurrence of domestic violence. Hence, the level of education plays a significant role in the levels of the dependent variable regardless of the prevalence of domestic violence, and vice versa.

Overall, the main explanatory variable remains significant at 1% statistical level and with an estimate of (-0.02) across all alternative specifications results, except when the interaction term with the gender is added in the regression in column (3). Therefore, the *white collar workers* are 2% less likely to tolerate domestic violence and 2% more likely to be in favour of the establishment of a legal framework for its mitigation. Hence, this paper reveals a strong correlation between $DVT_{i,\alpha,y}$ and $whitecollarsi, \alpha, y$. Lastly, both the level of *perceived prevalence* and gender are correlated, as in the main specifications (Table 4), with the $DVT_{i,\alpha,y}$.

	(1)	(2)	(3)	(4)	(5)	(6)
	acceptable	acceptable	acceptable	acceptable	acceptable	acceptable
White collars	-0.176*** (-8.06)	-0.133*** (-5.72)	-0.128*** (-5.41)	-0.0870*** (-3.59)	-0.0221 (-0.59)	-0.0870*** (-3.59)
Prevalence	-0.246*** (-10.73)	-0.250*** (-10.86)	-0.238*** (-10.25)	-0.227*** (-9.50)	-0.228*** (-9.52)	-0.227*** (-9.50)
Male	0.140*** (6.81)	0.150*** (7.22)	0.144*** (6.89)	0.145*** (6.73)	0.213*** (5.65)	0.146*** (5.65)
High education		-0.0629** (-2.71)	-0.0424 (-1.81)	0.0252 (1.05)	0.0265 (1.10)	0.0252 (1.05)
Low education		0.204*** (5.03)	0.165*** (4.00)	0.0926* (2.17)	0.0952* (2.23)	0.0926* (2.17)
Married		-0.111*** (-3.40)	-0.109*** (-3.34)	-0.0590 (-1.75)	-0.0588 (-1.75)	-0.0591 (-1.75)
Single		-0.0698 (-1.85)	-0.0743 (-1.95)	-0.0590 (-1.51)	-0.0603 (-1.54)	-0.0590 (-1.51)
Urban comm.		0.0656** (2.65)	0.0412 (1.65)	-0.0731** (-2.82)	-0.0728** (-2.80)	-0.0731** (-2.82)
Rural comm.		0.0159 (0.64)	0.0339 (1.35)	-0.0358 (-1.39)	-0.0366 (-1.42)	-0.0334 (-0.93)
Kids		0.0276 (1.27)	0.0201 (0.92)	-0.0204 (-0.90)	-0.0207 (-0.92)	-0.0204 (-0.90)
Law			-0.642*** (-18.46)	-0.0448 (-1.09)	-0.0443 (-1.08)	-0.0448 (-1.09)
whitecollars##male					-0.100* (-2.20)	
rural##male						-0.00388 (-0.09)
<i>Nationalities</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Indiv.controls</i>	No	Yes	Yes	Yes	Yes	Yes
<i>CountryFE</i>	No	No	No	Yes	Yes	Yes
<i>LaborFE</i>	No	No	No	Yes	Yes	Yes
<i>YearFE</i>	No	No	No	Yes	Yes	Yes
_cons	-0.673*** (-6.07)	-0.621*** (-5.31)	-0.234 (-1.89)	-0.650 (-0.78)	-0.715 (-0.85)	-0.651 (-0.78)
<i>N</i>	22,728	22,728	22,728	22,728	22,728	22,728

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: Robustness checks results

8 Robustness checks

Alonso-Borrego et al. (2017) use Spanish survey cross-sectional data to detect the effects of employment on domestic violence caused by intimate partners by using a multivariate probit model. Likewise, since I have a binary dependent variable, I exploit the probit model. The probit model can capture the non-linear relationship between $DVT_{i,\alpha,y}$ and the explanatory variables of the study. In this case, independence is retained across the individuals, and dependence occurs across the choices. Also, the probit model is a method to account for non-linear relationships between the main variable of interest and the multiple predictors, as well as allows to analyse the effects of multiple predictors on the binary variable of interest.

In Table 6, I present the results of the robustness checks exploiting the probit model across all regressions in columns (1)-(6). The approach of the introduction of the controls and fixed effects is similar to the one used in Table 5; first I include the naive baseline regression, and then I introduce the individual controls and country, year and country-year fixed effects. I include the nationality and individual characteristics as a control of confounding factors across all columns of Table 6. From column (3) onward, I introduce the variables $LAW_{i,\alpha,y}$, and in columns (5) and (6) I replicate the interaction terms tests I conduct in Table 5 (Additional Specification Results).

The main explanatory variable of the study, $whietcollars_{i,\alpha,y}$ remains significant at 1% statistical level and negatively correlated with the $DVT_{i,\alpha,y}$ across all columns, except when I introduce the interaction term $whitecollars###male$ in column (5). Overall, *white collar workers* have a stronger impact on the acceptance of domestic violence; comparing to column (6) of Table 4 ($\beta_1=-0.02$), now, in Table 6, the coefficient is ($\beta_1=-0.08$) which is interpreted as a 8% likelihood of people who work in non-manual work environments and highly skilled administrative positions, to be opposed to any form of domestic violence.

Likewise, the level of *perceived prevalence* and the impact of gender on the dependent variable becomes much stronger. The male population is now 14%-21% more likely to accept domestic violence, and the *perceived prevalence* impacts the social attitudes up to approximately 22%. Although the level of statistical significance and association type remains the same across the

results of the main model, the additional specifications and the robustness checks, the results in Table 6 show a bigger impact of these variables, revealing some of the main layers driving social attitudes on the topic, prevailing even the effect of the *white collar* jobs.

Last but not least, other explanatory variables such as the $LAW_{i,\alpha,y}$, $Married_{i,\alpha,y}$ and $Urbancommunity_{i,\alpha,y}$ follow similar patterns of the statistical level of significance as in Table 5 but reveal a stronger relationship with the $DVT_{i,\alpha,y}$ as well. To be more specific, the existence of a law recognising the term of *domestic violence* leads to a decrease in social acceptance of domestic violence up to 64%. However, this effect is only significant when the country and year fixed effects are absent, which reveals that the inclusion of a variable that takes the value 1 when a country introduces a law at a given year functions as an alternative measure of the country and year fixed effects.

9 Conclusion

This paper assesses the main drivers of the social opinions towards the levels of acceptance and the unlawfulness of domestic violence, by using as the main explanatory variable the level of occupation of individuals categorised as white and blue collars. It exploits the Special Eurobarometer survey series on Domestic Violence conducted in 1999, 2010 and 2016 to describe the level of public opinion on gender-based and domestic violence across the EU MSs. The identification strategy relies on the *OLS* model and the introduction of individual characteristics, the nationality of each interviewee, as well as country and year fixed effects to determine the influence of white collar jobs on the public .

The analysis reveals that the *white collar workers* are more likely to discard any form of domestic violence. In addition, the *perceived prevalence* of domestic violence decreases the levels of tolerance, whereas being male increases them. Other factors such as levels of education, marital status and type of community play a significant role as well. The findings suggest that someone who has received higher levels of education is aware of the occurrence of domestic violence and works as white collar worker would most probably disagree and condemn domestic violence and approve the establishment of a proper and relevant legal framework. However, across the different identifications employed in the paper, the levels of statistical

significance and influence of these factors vary. Nevertheless, the occupation level remains statistically significant at 1% across all main and additional specifications, as well as the robustness checks.

Although I try to show a correlation between the introduction of domestic law and the Istanbul Convention with the levels of acceptance and unlawfulness of domestic violence, I fail to do so, except when I exploit the probit model and before I include the country and year fixed effects. In that case, the introduction of a domestic law leads to 64% likelihood of influencing social opinions towards not tolerating any form of domestic violence. In all the other endeavours. This implies that the legal and institutional framework of the EU MSs should take seriously into account the impact that laws can have on eliminating such a serious social problem. In all the regressions that I have included the establishment of domestic law, the variable is negatively associated with the tolerance of domestic violence, however, I fail to find a correlation in all the regressions. On the other hand, the perceived prevalence remains constantly significant and positively associated with the condemnation of domestic violence, implying that raising awareness is an efficient measure to mitigate that social problem.

Concerning the limitations of the paper, there is potential endogeneity bias and omitted variables bias. In addition, the sample consists of survey data that are known to be prone to personal perceptions of the respondents when sharing personal information and desirability bias.

Nevertheless, the results can help to shape the European agenda for ending gender-based and domestic violence, as well as the national agendas of the EU MSs. Although the roots of domestic violence are complicated to be unfolded, the policies should acknowledge national specific characteristics requiring vertical approaches across the EU MSs, and the important role of legislation and level of occupation, education and prevalence across citizens. As for the role of gender, although this paper does not explain the reasons for the discrepancy between men's and women's opinions towards the tolerance of domestic violence, it does though consistently reveal a strong association between men and tolerance of domestic violence. Shockingly, a gender identity difference across individuals leads to such social behaviours, calling for proper political responses to unfold the roots of domestic violence and expose any linkages with this

and the rest variables included in the study.

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A Appendix

	(1)	(2)	(3)	
	Bluecollar workers	Whitecollar workers	Difference	
	mean	mean	b	t
Male	0.645	0.468	0.177**	(25.927)
Female	0.645	0.468	0.177**	(25.927)
High education	0.273	0.631	-0.357**	(-55.501)
Middle educational level	0.533	0.324	0.209**	(30.429)
Low education	0.178	0.031	0.147**	(31.898)
Married	0.672	0.697	-0.025**	(-3.830)
Single	0.214	0.193	0.021**	(3.777)
Divorced	0.100	0.101	-0.001	(-0.286)
Urban community	0.249	0.340	-0.091**	(-14.469)
Rural community	0.402	0.286	0.116**	(17.350)
Middle size town	0.347	0.373	-0.026**	(-3.889)
Kids	0.361	0.374	-0.014*	(-2.035)
Observations	7445	15283	22728	

Table 7: Main specifications results: Nationalities described

(1)	(2)	(3)	(4)	(5)	(6)
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	acceptable	acceptable	acceptable	acceptable	acceptable	acceptable
Whitecollars	-0.0491*** (0.000)	-0.0537*** (0.000)	-0.0411*** (0.000)	-0.0398*** (0.000)	-0.0251*** (0.000)	-0.0244*** (0.000)
Prevalence	-0.0892*** (0.000)	-0.0781*** (0.000)	-0.0788*** (0.000)	-0.0695*** (0.000)	-0.0751*** (0.000)	-0.0683*** (0.000)
Male	0.0390*** (0.000)	0.0412*** (0.000)	0.0436*** (0.000)	0.0440*** (0.000)	0.0372*** (0.000)	0.0376*** (0.000)
Belgian		0.107** (0.001)	0.108** (0.001)	-0.0533 (0.168)	-0.0989* (0.012)	-0.0559 (0.145)
Danish		0.0438 (0.188)	0.0496 (0.137)	0.00725 (0.831)	0.0884* (0.010)	-0.127*** (0.000)
German		0.0959** (0.004)	0.0907** (0.006)	-0.0230 (0.518)	-0.0442 (0.222)	-0.0712* (0.045)
Greek		0.124*** (0.000)	0.113*** (0.001)	0.141*** (0.000)	-0.0790* (0.027)	0.114** (0.001)
Spanish		-0.0563 (0.088)	-0.0673* (0.042)	0.00698 (0.841)	-0.176*** (0.000)	-0.0759* (0.027)
French		0.0236 (0.476)	0.0230 (0.488)	-0.157*** (0.000)	-0.0912* (0.024)	-0.177*** (0.000)

Irish		-0.0157	-0.0220	-0.0413	-0.129***	-0.113***
		(0.636)	(0.507)	(0.218)	(0.000)	(0.001)
Italian		-0.0254	-0.0290	-0.120***	-0.379***	-0.0983**
		(0.439)	(0.377)	(0.001)	(0.000)	(0.008)
Luxembourgian		0.0620	0.0628	-0.00456	-0.0778	-0.143***
		(0.105)	(0.100)	(0.907)	(0.063)	(0.001)
Dutch		0.110**	0.110**	-0.0283	-0.0397	-0.0643
		(0.001)	(0.001)	(0.449)	(0.291)	(0.081)
Portuguese		0.0418	0.0184	0.102**	0.112**	0.0112
		(0.212)	(0.586)	(0.004)	(0.002)	(0.754)
UK		0.0467	0.0419	0.0427	0.0383	-0.0509
		(0.160)	(0.209)	(0.205)	(0.258)	(0.128)
Austrian		0.0513	0.0451	0.268***	0.242***	0.0453
		(0.122)	(0.175)	(0.000)	(0.000)	(0.286)
Swedish		-0.0314	-0.0313	0.166***	0.241***	-0.0872*
		(0.341)	(0.342)	(0.000)	(0.000)	(0.035)
Finish		0.114***	0.114***	0.289***	0.375***	0.0592
		(0.001)	(0.001)	(0.000)	(0.000)	(0.145)
<i>Indiv.controls</i>	No	No	Yes	Yes	Yes	Yes

<i>CountryFE</i>	No	No	No	Yes	Yes	Yes
<i>YearFE</i>	No	No	No	No	No	Yes
<i>N</i>	22,728	22,728	22,728	22,728	22,728	22,728

p-values in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8: Additional specifications results: Nationalities described

	(1)	(2)	(3)	(4)
	acceptable	acceptable	acceptable	acceptable
White collars	-0.0244*** (0.000)	-0.0243*** (0.000)	-0.00476 (0.664)	-0.0242*** (0.000)
Prevalence	-0.0683*** (0.000)	-0.0685*** (0.000)	-0.0687*** (0.000)	-0.0764*** (0.000)
Male	0.0376*** (0.000)	0.0377*** (0.000)	0.0594*** (0.000)	0.0378*** (0.000)
Belgian	-0.0559 (0.145)	-0.0543 (0.161)	-0.0545 (0.159)	-0.0537 (0.166)
Danish	-0.127*** (0.000)	-0.129*** (0.000)	-0.131*** (0.000)	-0.128*** (0.000)
German	-0.0712* (0.000)	-0.0732* (0.000)	-0.0739* (0.000)	-0.0728* (0.000)

	(0.045)	(0.042)	(0.040)	(0.043)
Greek	0.114**	0.117**	0.117**	0.117**
	(0.001)	(0.001)	(0.001)	(0.001)
Spanish	-0.0759*	-0.0745*	-0.0736*	-0.0743*
	(0.027)	(0.032)	(0.034)	(0.032)
French	-0.177***	-0.178***	-0.179***	-0.177***
	(0.000)	(0.000)	(0.000)	(0.000)
Irish	-0.113***	-0.111**	-0.112***	-0.111**
	(0.001)	(0.001)	(0.001)	(0.001)
Italian	-0.0983**	-0.0976**	-0.0975**	-0.0970**
	(0.008)	(0.008)	(0.008)	(0.009)
Luxembourgian	-0.143***	-0.143***	-0.143***	-0.143***
	(0.001)	(0.001)	(0.001)	(0.001)
Dutch	-0.0643	-0.0640	-0.0638	-0.0635
	(0.081)	(0.083)	(0.083)	(0.085)
Portuguese	0.0112	0.0117	0.0121	0.0118
	(0.754)	(0.745)	(0.736)	(0.743)
UK	-0.0509	-0.0524	-0.0524	-0.0518
	(0.128)	(0.120)	(0.120)	(0.124)

Austrian	0.0453 (0.286)	0.0470 (0.273)	0.0452 (0.291)	0.0459 (0.284)
Swedish	-0.0872* (0.035)	-0.0898* (0.032)	-0.0912* (0.030)	-0.0904* (0.031)
Finish	0.0592 (0.145)	0.0566 (0.169)	0.0545 (0.185)	0.0561 (0.172)
law		-0.01192 (0.749)	-0.01207 (0.752)	-0.01208 (0.753)
whitecollars##male			-0.0312** (0.010)	
prevalence##high education				0.0145 (0.249)
<i>Indiv.controls</i>	Yes	Yes	Yes	Yes
<i>CountryFE</i>	Yes	Yes	Yes	Yes
<i>YearFE</i>	Yes	Yes	Yes	Yes
_cons	0.302 (0.208)	0.310 (0.198)	0.292 (0.226)	0.319 (0.186)
<i>N</i>	22,728	22,728	22,728	22,728

p-values in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 9: Robustness checks: Nationalities described

	(1)	(2)	(3)	(4)	(5)	(6)
	acceptable	acceptable	acceptable	acceptable	acceptable	acceptable
acceptable						
White collars	-0.176*** (-8.06)	-0.133*** (-5.72)	-0.128*** (-5.41)	-0.0870*** (-3.59)	-0.0221 (-0.59)	-0.0870*** (-3.59)
Prevalence	-0.246*** (-10.73)	-0.250*** (-10.86)	-0.238*** (-10.25)	-0.227*** (-9.50)	-0.228*** (-9.52)	-0.227*** (-9.50)
Male	0.140*** (6.81)	0.150*** (7.22)	0.144*** (6.89)	0.145*** (6.73)	0.213*** (5.65)	0.146*** (5.65)
Belgian	0.340** (2.95)	0.344** (2.98)	0.572*** (4.65)	-0.222 (-1.65)	-0.223 (-1.65)	-0.222 (-1.65)
Danish	0.143 (1.25)	0.165 (1.43)	-0.239 (-1.96)	-0.457*** (-3.66)	-0.460*** (-3.69)	-0.457*** (-3.66)
German	0.304** (2.68)	0.286* (2.51)	-0.103 (-0.85)	-0.313* (-2.51)	-0.315* (-2.53)	-0.313* (-2.51)
Greek	0.384*** (3.33)	0.348** (3.01)	0.599*** (4.88)	0.252 (1.96)	0.253* (1.97)	0.252 (1.96)

Spanish	-0.244*	-0.285*	-0.358**	-0.424**	-0.422**	-0.424**
	(-2.05)	(-2.38)	(-2.86)	(-3.28)	(-3.26)	(-3.28)
French	0.0693	0.0672	0.0423	-0.640***	-0.642***	-0.639***
	(0.60)	(0.58)	(0.35)	(-4.56)	(-4.58)	(-4.56)
Irish	-0.0755	-0.0993	0.142	-0.433***	-0.436***	-0.433***
	(-0.64)	(-0.85)	(1.14)	(-3.52)	(-3.55)	(-3.52)
Italian	-0.121	-0.136	-0.340**	-0.498***	-0.498***	-0.498***
	(-1.04)	(-1.16)	(-2.75)	(-3.74)	(-3.74)	(-3.74)
Luxembourgian	0.201	0.204	0.156	-0.482***	-0.482***	-0.482***
	(1.55)	(1.57)	(1.14)	(-3.42)	(-3.42)	(-3.42)
Dutch	0.352**	0.356**	0.365**	-0.247	-0.246	-0.247
	(3.05)	(3.08)	(2.99)	(-1.94)	(-1.93)	(-1.94)
Portuguese	0.134	0.0528	0.0399	-0.0292	-0.0274	-0.0291
	(1.16)	(0.45)	(0.32)	(-0.23)	(-0.22)	(-0.23)
UK	0.152	0.136	-0.171	-0.214	-0.213	-0.214
	(1.32)	(1.17)	(-1.40)	(-1.80)	(-1.79)	(-1.80)
Austrian	0.163	0.142	0.382**	0.190	0.186	0.190
	(1.42)	(1.24)	(3.12)	(1.21)	(1.19)	(1.21)
Swedish	-0.149	-0.149	-0.551***	-0.358*	-0.361*	-0.358*

		(-1.27)	(-1.26)	(-4.42)	(-2.26)	(-2.28)	(-2.26)
Finish	0.357**	0.359**	-0.0398	0.205	0.199	0.205	
	(3.09)	(3.10)	(-0.32)	(1.38)	(1.34)	(1.38)	
Law			-0.642***	-0.0448	-0.0443	-0.0448	
			(-18.46)	(-1.09)	(-1.08)	(-1.09)	
whitecollars##male					-0.100*		
					(-2.20)		
rural##male							-0.00388
							(-0.09)
<i>Indiv.controls</i>	No	Yes	Yes	Yes	Yes	Yes	Yes
<i>CountryFE</i>	No	No	No	Yes	Yes	Yes	Yes
<i>YearFE</i>	No	No	No	Yes	Yes	Yes	Yes
_cons	-0.673***	-0.621***	-0.234	-0.650	-0.715	-0.651	
	(-6.07)	(-5.31)	(-1.89)	(-0.78)	(-0.85)	(-0.78)	
<i>N</i>	22,728	22,728	22,728	22,728	22,728	22,728	22,728

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Glossary

Domestic violence shall mean all acts of physical, sexual, psychological or economic violence that occur within the family or domestic unit or between former or current spouses or partners, whether or not the perpetrator shares or has shared the same residence with the victim.. 1

Gender-based violence against women shall mean violence that is directed against a woman because she is a woman or that affects women disproportionately.. 8

Violence against women is understood as a violation of human rights and a form of discrimination against women and shall mean all acts of gender-based violence that result in, or are likely to result in, physical, sexual, psychological or economic harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.. 1