Antipathy and sympathy towards immigrants of different origins: The case of Tenerife

Daniel Buraschi

Universidad de La Laguna. Departamento de Historia y Filosofía de la Ciencia, la Educación y el Lenguaje
0000-0001-7123-5286; dburaschi@ull.edu.es

Dirk Godenau
José Juan Cáceres Hernández

Universidad de La Laguna. Departamento de Economía Aplicada y Métodos Cuantitativos
🟢 0000-0001-8945-2051; dgodenau@ull.edu.es
🟢 0000-0003-0092-8864; jcaceres@ull.edu.es

Abstract

The present study investigates the perceptions of antipathy and sympathy toward immigrant groups among the native-born population of Tenerife, Canary Islands. A logit model is used not only to estimate the probabilities of antipathy, indifference, and sympathy for each group of immigrant origin, but also to quantify probabilistically the joint effects of different individual attributes on these social perceptions. Results, based on survey data from 479 respondents, show that there are significant differences in attitudes depending on the immigrants' origin. Antipathy is most commonly directed toward immigrants from Eastern Europe and North Africa, while sympathy is more frequently expressed for individuals from Latin America, the European Union, and sub-Saharan Africa. Key predictors of antipathy include older age, lower educational attainment, active labour market participation, Catholic religious affiliation, and right-wing political ideology. In contrast, sex and residential area show minimal influence on attitudes. The study also identifies distinct extreme profiles characterized by combinations of these attributes, demonstrating substantial variation in the likelihood of antipathy or sympathy across different immigrant groups. Findings support the differentiated threat model, which posits that perceived threats and their impact vary among population segments based on group characteristics. The results underscore the importance of tailored social policies that address the specific concerns and perceptions associated with different immigrant communities. Future research should incorporate dynamic social contexts and qualitative insights to further explore the underlying mechanisms of intergroup attitudes.

Keywords: attitudes towards immigrants; intercultural relations; intergroup threat perception; prejudice; logit model

Resumen. *Antipatía y simpatía hacia los inmigrantes de diferentes orígenes: el caso de Tenerife*

El presente estudio investiga las percepciones de antipatía y simpatía hacia los grupos de inmigrantes en la población autóctona de Tenerife (Islas Canarias). Se utiliza un modelo Logit no solo para estimar las probabilidades de antipatía, indiferencia y simpatía por cada grupo de origen inmigrante, sino también para cuantificar probabilísticamente los efectos conjuntos de diferentes atributos individuales sobre estas percepciones sociales. Los resultados, basados en los datos de la encuesta realizada a 479 encuestados, muestran que existen diferencias significativas en las actitudes según el origen de los inmigrantes. La antipatía se dirige más comúnmente hacia los inmigrantes de la Europa del Este y del África del Norte, mientras que la simpatía se expresa con mayor frecuencia hacia las personas de la América Latina, la Unión Europea y el África subsahariana. Los predictores clave de la antipatía incluyen la edad avanzada, el menor nivel educativo, la participación activa en el mercado laboral, la afiliación religiosa católica y la ideología política de derechas. Por el contrario, el género y la zona residencial mostraron una influencia mínima en las actitudes. El estudio también identifica distintos perfiles extremos caracterizados por combinaciones de estos atributos, lo que demuestra una variación sustancial en la probabilidad de antipatía o simpatía entre los diferentes grupos de inmigrantes. Los hallazgos respaldan el modelo de amenaza diferenciada, que postula que las amenazas percibidas y su impacto varían entre los segmentos de la población en función de las características del grupo. Los resultados subrayan la importancia de políticas sociales adaptadas que aborden las preocupaciones y percepciones específicas asociadas con las diferentes comunidades de inmigrantes. Las investigaciones futuras deben incorporar contextos sociales dinámicos y perspectivas cualitativas para explorar más a fondo los mecanismos subyacentes de las actitudes intergrupales.

Palabras clave: actitudes hacia los inmigrantes; relaciones interculturales; percepción de amenaza intergrupal; prejuicios; modelo Logit

Summary

1. Introduction

Studying attitudes toward immigration is essential for understanding the processes of social cohesion, migration and integration policies, and intergroup dynamics. Furthermore, understanding these perceptions is crucial for anticipating potential conflicts, designing interventions that promote social coexistence, and contributing to the development of evidence-based policies in a global context characterized by increasing migratory flows and demographic changes.

Attitudes toward immigration are rarely homogeneous; there is a substantial body of research demonstrating that perceptions of immigration vary according to different individual and contextual variables (Ceobanu and Escandell, 2010; De Conick, 2019; Davidov and Semyonov, 2017; Rinken and Mariscal

de Gante, 2024). Additionally, studies such as those conducted in the United Kingdom by Hellwig and Sinno (2017) or in Spain by González Enríquez et al. (2024) have shown that perceptions of immigration can differ depending on the specific immigrant groups being considered.

The study of these differences can be particularly compelling in regions with significant diversity in migration profiles, such as the island of Tenerife in Spain. In Tenerife, this heterogeneity is evident not only in terms of countries of origin but also in the socio-demographic characteristics of the immigrant groups. On one hand, Tenerife serves as a key entry point for African immigrants arriving by sea; a phenomenon that attracts considerable media attention and political relevance. On the other hand, high-income immigrants, predominantly from other EU countries, also constitute a significant group. Furthermore, Latin American immigration, particularly from Venezuela, maintains a substantial presence with deep historical ties to the Canary Islands.

At the end of 2017, the year when the fieldwork for this research project was carried out, the demographic context of the island of Tenerife was characterized by a resident population of 905,000 people, of which 21% had been born abroad. Of these 186,000 people born abroad, 51% came from Latin American countries, 39% were from European countries, 6% from African countries and 5% from Asian countries. These diverse immigrant groups follow markedly different trajectories of social and labour integration in Tenerife. This unique combination of factors makes the island a particularly interesting case for studying variations in perceptions of immigration. The distinct integration patterns and socio-economic profiles of these immigrant communities provide a rich context for analyzing how local populations perceive and interact with different immigrant groups, offering valuable insights into the complex dynamics of immigration and social integration in a diverse island setting.

In 2020, we published an initial descriptive analysis of the data presented in this study (Buraschi and Godenau, 2020), which revealed that perceptions of immigration in Tenerife varied according to different individual variables and across immigrant groups. However, this descriptive analysis did not provide an in-depth examination of the specific weight and predictive value of each individual variable, nor did it explore how different individual variables interact depending on the immigrant group in question. This limitation restricts a more comprehensive understanding of immigration perceptions.

In this context, the present study aims to: (1) analyse differences in perceptions of immigration according to the origin of the immigrant groups and identify patterns of antipathy and sympathy; (2) assess the predictive power of various individual sociodemographic variables on attitudes toward immigration and determine which factors are most strongly associated with antipathy and sympathy; and (3) identify and characterize extreme profiles of individuals based on the combination of sociodemographic attributes to evaluate their distinct likelihoods of antipathy and sympathy toward different immigrant groups.

According to conflict and threat theories, negative attitudes are the result of the reaction of one group to the threat (real or perceived) of another group. From

the earliest formulations, it has been emphasized that there is not necessarily a real competition or threat; what is important is that there is a perception of this competition or threat (Campbell, 1965). The perception of threat is variable and conditioned by the historical context and circumstances. An outgroup, moreover, can represent different types of threat, which go beyond the material aspects of social life (work, economy, public services) and include symbolic, identity,

 and value aspects (Stephan and Stephan, 2000). Theoretical proposals on conflict and threat consider different factors that can determine the perception of threat. Quillian (1995), for example, proposes two variables: the relative size of the outgroup and economic circumstances. In times of economic recession, and if the outgroup is of significant size, the perception of competition for scarce resources, such as job vacancies, increases. More recent developments in threat theory have broadened the focus of analysis to the antecedents of threat, including intergroup relations (status differences, history of intergroup conflict, perception of group size); individual differences (such as individual and group self-esteem, or dominance orientation); cultural factors; and situational factors (interaction characteristics, support, goals) (Stephan and Stephan, 2000).

When talking about perceived threat, immigrants are not always perceived as a homogeneous block and that perceptions of the threat they represent may vary depending on the reference collective (Cebolla-Boado and González-Ferrer, 2016). In this regard, Hellwig and Sinno (2017) investigate how public attitudes toward immigrants are influenced by perceptions of different migrant groups and the threats associated with them. The authors argue that distinct immigrant groups activate different perceived threats—economic, cultural, security, and crime-related—that shape public sentiment. Through a survey experiment conducted in the United Kingdom, they found that economic concerns primarily influence attitudes toward Eastern European immigrants, while cultural and security concerns are more strongly associated with attitudes toward Muslim immigrants. These findings highlight the importance of considering group-specific characteristics when analyzing public opinion on immigration.

Attitudes towards immigration and immigrants are conditioned by contextual and individual variables. Among the individual variables, research on antipathy towards the immigrant population has highlighted that one of the most consistent predictors is educational level: people with a high educational level tend to express more positive attitudes towards immigration (Ceobanu and Escandell, 2010; Hainmueller and Hiscox 2007; Coenders and Scheepers, 2003; Quillian, 1995). Indeed, educational level is a stable and common predictor in many countries, although it has greater weight in countries with more consolidated democratic systems (Coenders and Scheepers, 2003; Semyonov et al. 2009). A second predictor of positive attitudes is having a comfortable economic position and a favourable employment situation (Semyonov and Glikman, 2009; Scheepers et al. 2002) or being middle or upper class (Kehrberg, 2007). Regarding labour status, García-Muñoz and Milgram-Baleix (2021), based on the analysis of a large sample of 61 countries, find that unemployed individuals and those in precarious jobs tend to have more negative attitudes toward immi-

gration due to the perceived competition in the labour market, while those with stable jobs exhibit more positive attitudes as they do not perceive a direct threat. Many studies have also highlighted the importance of age, evidencing that younger people tend to show more positive attitudes towards immigrants (Coenders and Scheepers, 2003). Right-wing political ideology leads to higher levels of antipathy, while liberal or progressive positions are associated with lower levels of rejection towards the immigrant population (Hainmueller and Hiscox, 2007; Semyonov et al., 2008). Pardos-Prado (2011) stresses that the predictive importance of ideological self-ascription increases among people who do not have direct experiences of actual threat from immigrants.

Regarding differences between men and women, Valentova and Alieva (2014) analyse how gender differences influence the perception of immigration-related threats. Through a comparative study, the authors find that men tend to perceive greater economic threats from immigration, associating it with increased labour market competition. In contrast, women show greater sensitivity to cultural and social threats, particularly regarding potential changes in social norms and values. In relation to religion, some studies show that when certain forms of religiosity are linked to conservative ideologies, as can be the case in Spain, religiosity can predict more negative attitudes toward immigration (McDaniel et al., 2011).

Finally, the relationship between attitudes toward immigration and residential area can be influenced by factors such as the salience of diversity, residential segregation, and the type of intergroup contact. Borkowska and Laurence (2024) highlight that areas with higher segregation tend to exhibit more negative attitudes toward immigrants due to the lack of intergroup interaction. On the other hand, Kaufmann and Harris (2015) find that local diversity can foster more positive attitudes when there is frequent and positive interaction between different ethnic groups.

It should be noted that it is often combinations of attributes that most clearly predict extreme anti- or pro-immigration positions, such as educational level with personal values (Hainmueller and Hiscox, 2007) or skills and educational level with employment status (active and inactive people) (O'Rourke and Sinnott, 2006). Some studies have resorted to logit models to measure the effects of a specific individual attribute on perceptions of immigrants or refugees (Wilkes et al., 2008; Abdelaaty and Steele, 2020). However, an underexplored line of research is to quantify the joint effect of individual attributes on these perceptions.

2. Data and method

2.1. Data

2.1.1. The present study
The objective of this study is to quantify the probabilities of antipathy and sympathy exhibited by the native-born Canary Islands population residing in Tenerife towards the primary immigrant groups on the island. To achieve

this aim, a survey was conducted that included questions pertaining to the predominant origins of the immigrant population in Tenerife. The survey was designed to assess attitudes of the Canary Islands-born population towards various immigrant origins.

The research focused specifically on the resident population born in the Canary Islands, as numerous previous studies have demonstrated that mainland Spanish residents in the Canary Islands are often assimilated into the immigrant category. In particular, studies have shown that in the Canary Islands, the population from the rest of Spain is perceived as qualified immigrants competing for job positions (Morera et al., 2004).

To examine the varying perceptions based on immigrant origins, the study has included a priori the main origins of the immigrant population in Tenerife: North Africans, sub-Saharan Africans, Asians, EU Europeans, Eastern Europeans, Venezuelans, and persons of other Latin American origins. The specific inclusion of Venezuelans is justified by their significant representation in recent immigration to Tenerife. Furthermore, due to profound historical ties with Venezuela, the Canarian population tends to differentiate between Venezuelan immigrants and those from other Latin American countries.

Although these categories may appear ambiguous in some instances and potentially overlapping, the decision to employ them was based on their prevalence in public discourse within the Canary Islands. This approach allows for a more nuanced understanding of local perceptions and attitudes towards different immigrant groups, reflecting the sociocultural context of the region.

For each of these origins, the respondent was asked to express their attitude towards the immigrant group in question on a Likert-type scale from 1 (*no sympathy*) to 5 (*a lot of sympathy*). The responses were recoded into three categories: antipathy (1-2), indifference (3), and sympathy (4-5). This grouping into three categories is justified by the fact that the use of dichotomous categories assumes a priori that lack of sympathy is synonymous with antipathy and lack of antipathy is equivalent to sympathy, when there may be attitudes characterized by indifference, that is, attitudes that express, at the same time, lack of antipathy and lack of sympathy or a neutral option chosen due to uncertainty or to avoid expressing extreme positions (Rinken et al., 2021; González-Enríquez et al., 2024). Categories were also established on some of the individual attributes of the respondents. Specifically, eight attributes were used: sex, age, educational level, employment status, social class, religion, ideology, and area of residence.

With the results of the survey, a descriptive analysis was carried out to identify differences in perceptions towards different immigrant groups, as well as according to the individual characteristics of those born in the Canary Islands. The sampling procedure aims to achieve a representative sample of the population, in spite of limitations in sample size and randomness. The present work adds value to the descriptive analysis, because it uses a logit model that not only estimates the probabilities of antipathy, indifference, and sympathy for each immigrant group, but also quantifies probabilistically the joint effects

of the different individual attributes on these perceptions. In particular, the results of the model estimations allow us to test three types of hypotheses. The first focuses on differences depending on the immigrant's origin (H1), the second on differences in perceptions according to the various individual attributes of respondents (in terms of sex, age, education, work, social class, religion, ideology, and areas of residence; H2) and the third on the extreme profiles of antipathy (H3).

2.1.2. Participants and procedure

To approximate the proportion of individuals in the population with a certain opinion among the residents of the island of Tenerife born in the Canary Islands aged 18 or older, multiple stratified random sampling has been used. Specifically, we considered strata defined by the modalities in the following four attributes: geographic area of residence, educational level, sex, and age. Regarding residence, the island's municipalities have been grouped into three areas: metropolitan area, northern area, and southern area. Three educational levels have been distinguished resulting from the grouping of the categories contemplated in the 2011 population and housing census: up to primary education (illiterate, no education, primary), secondary education, and higher education. For the sex attribute, male and female modalities have been considered. Finally, individuals aged 18 or older were classified into three groups: 18 to 34, 35 to 64 years, and 65 or older.

The specific determination of the sample sizes by strata has been obtained from approximations to the corresponding population sizes in accordance with the data recorded in the population and housing census of 2011 and the continuous register on January 1, 2017 (Table 1). Specifically, the population groups defined according to the census by municipality of residence, sex and age group have been distributed by educational level in accordance with their relative weights in the census. Then, by aggregation, population sizes have been deduced by geographical area of residence, sex, age group, and educational level. Once the sample size corresponding to each stratum defined by geographical area of residence, sex, age group and educational level has been selected, the distribution of the sample within a stratum is that which has resulted from following random routes. After conducting the fieldwork from February to June 2018, the final distribution of the sample is shown in Table 1. The table also includes the margins of error with a probability of 95.5% for the strata corresponding to a stratified sampling method.[1] A total of 14 interviewers participated after receiving prior training by the survey coordinator. The coordinator monitored the interviews daily, with control visits to the areas where the interviews were conducted and was also in charge of the digitalization of the database in SPSS.

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1. Note that random routes imply restrictions in randomness. Furthermore, sample sizes are not large enough for several strata. Therefore, these margins of error should be interpreted with caution.

Table 1. Population and sample distribution and margins of error (stratified sampling)

Strata	Population size	Sample size	Error (%)[1]
According to area of residence			
Metropolitan area	239,567	220	7.10
North area	161,559	140	9.17
South area	114,536	119	9.38
According to educational level			
Illiterate or primary	168,072	135	9.06
Secondary	270,330	231	6.70
Higher	77,260	113	10.38
According to sex			
Female	266,156	250	6.85
Male	249,506	229	6.84
According to age			
18-34 years old	125,004	135	9.17
35-64 years old	282,240	251	6.45
65 or older	108,418	93	11.71
Total	515,662	479	4.84

The margin of error in the approximation to the population proportion with a probability of 95.5% and considering finite populations and maximum uncertainty $(p = 1/2)$ is indicated.

Source: Buraschi and Godenau (2020).

2.2. Method

2.2.1. Statistical model

Considering the responses of the individuals in the sample, estimates of the population proportions of individuals with a certain profile who show different degrees of antipathy towards a specific group of immigrants can be obtained by calculating the corresponding sample proportions. In the case analysed, 54 strata are considered, which result from combining three areas of residence, three educational levels, two sexes and three age groups. For any given stratum, the sample proportion of individuals with the analysed characteristic is an estimate of the population proportion of individuals in the stratum with that characteristic. To calculate the sample proportion of individuals with the characteristic studied, the opinion of an individual of a stratum participates in the average with a weighting that indicates the number of individuals of the population in that stratum represented by each individual of the sample in that stratum. Once these weighted factors have been assigned to each individual in the sample, the population proportion of individuals with the characteristic studied can be estimated for any subset of individuals in that population with a particular profile taking into account the subset of individuals in the sample representing the previous subset.

To evaluate the impact that the attributes defining an individual's profile may have on these proportions, it is possible to resort to discrete choice models.

Specifically, a multinomial logit model is used (Theil, 1969; Train, 2003), in which the probability that an individual presents a degree of antipathy *j,* *j=0,1,2*, with respect to the immigrant collective *k, k=1,...,r*, is expressed as a function of the vector of characteristics of the individual. In formal terms, the probability that individual *i* has a degree of antipathy *j* with respect to immigrant group k can be expressed as

$$P\left(Y_{i,k} = j\right) = \frac{e^{\beta'_{k,j}x_i}}{1+\sum_{m=1}^{2} e^{\beta'_{k,m}x_i}}, j = 1,2,$$

while the probability of choosing the alternative taken as a reference *(j=0)* is expressed as

$$P\left(Y_{i,k} = 0\right) = \frac{1}{1+\sum_{m=1}^{2} e^{\beta'_{k,m}x_i}},$$

where is the column vector of characteristics of individual that influence his/her degree of antipathy and is the column vector of parameters associated with these characteristics that reflect the specific impact that each characteristic has on the probability that the individual has a degree of antipathy with respect to group immigrants. This model is estimated by maximum likelihood using iterative numerical approximation procedures[2].

The model can be interpreted in terms of the marginal effects. However, given the discrete nature of the individual characteristics considered, it is more appropriate to examine the changes in the predicted probabilities, as well as the odds ratios. Note that if we evaluate the discrete change in the predicted probability of a discrete change in any of the individual's characteristics, this effect depends on both the vector of explanatory variables and the set of model parameters. However, as suggested by Rodríguez-Donate and Cáceres-Hernández (2007), Rodríguez-Donate et al. (2009), and Barroso-González et al. (2016), the mean values of the predicted probabilities can first be calculated assuming all individuals in the sample present one of the compared modalities in relation to the discrete change evaluated. Second, the mean values of the predicted probabilities are calculated when it is assumed that all individuals in the sample present the other modality under comparison. Then, the difference between the mean predicted probabilities in both cases illustrate the overall effect of the analysed change on the individual's characteristics. The calculation of these mean predicted probabilities also make it possible to identify extreme profiles, that is, vectors of individual characteristics that make it more or less likely that the individual presents a certain degree of antipathy with respect to a given immigrant group. Another clear interpretation of the meaning of

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2.   The estimates shown in the results section were obtained using the SPSS program and the individual weighted factors mentioned above were used as weights.

the model's parameters can be obtained from the calculation of odds ratios, defined as ratios of predicted probabilities that the individual in question presents different degrees of antipathy with respect to immigrant group. Formally, the odds ratio is defined as

$$\Omega_{j/m}(k) = \frac{P(Y_{i,k}=j)}{P(Y_{i,k}=m)} = e^{\left(\beta_{k,j}-\beta_{k,m}\right)' x_i}, j, m = 1, 2, j \neq m,$$

while, with respect to the reference category, the odds ratio is defined as

$$\Omega_{j/0}(k) = \frac{P(Y_{i,k}=j)}{P(Y_{i,k}=0)} = e^{\beta_{k,j}' x_i}, j = 1, 2.$$

Thus, when the modality defining one of the characteristics of the individual changes, the corresponding quotient of odds ratios does not depend on the remaining individual characteristics. In this way, the effect can be assessed of the change in any characteristic of the individual on the pattern of substitution between two of the alternatives of the choice set, that is, between two given degrees of antipathy. Moreover, quotients of odds ratios can also be evaluated when there is a change in two or more of the individual characteristics.

2.2.2. Variables
For each of the immigrant groups defined above, a logit model of the type described in the previous section is estimated. In each case, the dependent variable reflects the perception of the *i-th* individual with respect to immigrants of the *k-th* origin and can take the values 0 (sympathy), 1 (antipathy), and 2 (indifference), whereas the individual factors used to explain these perceptions are the attributes already indicated above. The modalities of sex, age, educational level, and area of residence are shown in Table 1. Regarding employment status, a distinction has been made between employed, unemployed and inactive. In terms of social class, two modalities are established: low class vs. non-low class. No distinction is made between middle and upper class, as very few responses of self-ascription to the upper class were recorded. In the case of religious self-ascription, the modalities are Catholic vs. others due to the marked heterogeneity of responses from non-Catholics (diversity of other religions, atheists). For the same reasons, in political ideology, two modalities are formed: right-wing vs. non-right-wing.

These characteristics are incorporated into the model by means of dichotomous qualitative variables that take the value of 1 or 0 depending on whether the individual possesses the characteristic corresponding to each of the modalities of the defined attributes. Thus, for each one of the attributes, vector xi includes the same number of dichotomous qualitative variables as the number of modalities corresponding to such an attribute. In this sense, the estimates of the parameter corresponding to one of the qualitative variables relating to an

attribute makes it possible to evaluate the difference in the mean predicted probability among individuals with different modalities for this attribute. And, of course, it is also possible to estimate the differences in the mean predicted probabilities for individuals defined by different individual characteristic vectors.

3. Results

The relative frequencies of antipathy, indifference, and sympathy reveal the heterogeneity of perceptions towards different origins of the immigrant population (H1). Eastern Europe and North Africa most frequently arouse antipathy, whereas European Union, Latin American origins, and sub-Saharan African most frequently arouse sympathy.[3] The mean predicted probabilities can be calculated from the estimates of the logit models shown in Table A.1 of the Appendix.

Note that the mean predicted probabilities of antipathy, indifference, or sympathy for each origin coincide with the corresponding relative frequencies and indicate different perceptions. The mean predicted probabilities of expressing sympathy are high for Latin American, EU, and Sub-Saharan origins. By contrast, North Africans and Eastern Europeans have low probabilities of sympathy. Asia is in an intermediate position.

Added to this heterogeneity in the frequency of antipathy/sympathy there are marked differences according to the individual attributes of the survey respondents. The mean probabilities predicted by the logit model for the manifestation of some degree of antipathy or sympathy according to individual attributes (Tables 2 and 3) generally show a higher incidence of variables related to educational level, ideological orientation, and religious self-ascription, followed by age, employment status, and social class. The differences according to sex and area of residence are smaller but statistically significant with some exceptions for immigrants of certain origins.

The effect of individual attributes on perceptions of immigration from different origins can be described in the following terms:

— In the sex variable, differences between male and female are generally significant but small, also in the immigrant origins with the highest probabilities of antipathy (Eastern European, North African). There are no statistically significant differences in the likelihood of antipathy for immigrants from the European Union. Regarding the odds ratios (Table 4), the "Other Latin Americans" origin stands out, in which the ratio between the probability of

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3. These relative frequencies were calculated for each immigrant group defined by origin after eliminating the cases corresponding to residents who either did not indicate their perception of the immigrant group in question or did not state the individual characteristics that defined the explanatory factors for such perceptions. Considering the elevation factors applied to each individual, the percentages of eliminated observations according to origin were as follows: North Africa 3.18%; Rest of Africa 2.97%; Asia 2.67%; European Union 0.84%; Eastern Europe 3.20%; Venezuela 0.54%; Rest of Latin America 1.05%.

Table 2. Predicted mean probabilities of expressing antipathy towards certain groups of migrants according to origin (%)

Individual attributes	North Africans	Sub-Saharan Africans	Asians	Europeans EU	Eastern Europeans	Venezuelans	Other Latin Americans
Male	37.9	13.8	28.1	10.5	50.0	20.4	17.6
Female	38.3	14.1	24.8	9.9	51.6	18.9	11.4
18-34	31.4	4.1	28.2	12.9	42.0	18.7	12.9
35-64	41.8	15.5	29.0	6.7	53.3	23.0	14.4
Over 64	35.6	18.9	17.8	25.1	53.6	10.7	15.3
Illiterate or primary education	42.8	15.4	31.1	10.0	58.2	20.5	14.7
Secondary education	41.0	14.7	26.5	10.6	50.9	20.5	12.8
Higher education	16.9	7.0	16.5	9.4	34.7	15.4	18.4
Metropolitan area	35.7	11.3	25.4	9.5	53.9	25.0	16.1
North	40.0	14.5	27.2	10.5	52.7	17.0	16.2
South	40.7	18.5	27.4	11.2	42.1	12.7	8.6
Employed	37.9	11.5	29.0	15.8	54.3	20.6	15.6
Unemployed	46.0	19.0	20.3	12.1	45.2	21.5	17.0
Inactive	34.2	14.6	25.3	5.1	47.7	16.6	11.2
Right-wing ideology	55.9	26.9	43.0	4.9	74.4	25.3	29.0
Non-right-wing ideology	35.5	11.3	23.9	10.9	47.2	18.9	11.9
Religion catholic	44.0	14.6	30.1	9.0	50.0	22.0	17.5
Not catholic	29.4	12.4	21.2	11.8	51.6	16.4	9.8
Low social class	37.5	11.8	30.6	9.0	55.5	21.1	19.7
Non-low social class	38.7	15.7	23.8	10.9	47.9	18.7	11.0
Total	38.2	14.0	26.4	10.2	50.8	19.6	14.3

Source: Own elaboration

disliking and the probability of liking is almost twice as high among men as among women. It is also striking that the sex variable, which generally does not differentiate very much, leads to lower likelihoods of sympathy among women for immigrants of African origins.

— The odds of antipathy/sympathy across age groups (18-34, 35-64, >64) are generally lower among younger people, whereas older age is associated with higher odds of antipathy/sympathy for different origins. Exceptions are found in the cases of the European Union, Asia, and Venezuela, because for these origins the lowest probabilities do not correspond to young people. The quotient of odds ratios for ages 18-34/>64 confirms this exceptionality for Asia and Venezuela. In the case of the European Union, the ratio below 1 is explained by the higher ratio between the probability of disliking and the probability of liking for those over 64.

— Higher education is associated with lower likelihood of disliking and higher levels of liking. The only exception, with a low degree of intensity, is Latin American origin. In fact, in the case of immigrants from this origin who do not come from Venezuela, the average probability of antipathy is higher

Table 3. Predicted mean probabilities of expressing sympathy towards specific groups of migrants by origin (%)

Individual attributes	North Africans	Sub-Saharan Africans	Asians	Europeans EU	Eastern Europeans	Venezuelans	Other Latin Americans
Male	31.0	54.8	36.7	56.3	19.2	56.8	53.9
Female	18.9	48.7	31.7	53.2	20.3	57.0	55.7
18-34	30.0	60.9	33.3	55.9	25.7	66.1	59.2
35-64	23.2	49.8	34.9	59.0	19.2	54.2	56.3
Over 64	22.3	46.9	31.5	38.4	13.7	50.2	46.3
Illiterate or primary education	20.8	49.7	31.9	54.7	19.7	55.6	51.7
Secondary education	23.6	48.0	35.1	51.4	16.5	55.9	55.5
Higher education	40.2	69.7	35.1	66.0	31.3	63.2	59.4
Metropolitan area	19.6	51.7	35.9	51.9	20.1	52.8	50.4
North	30.0	52.6	32.7	54.9	14.9	61.2	63.2
South	29.5	50.6	32.4	59.9	25.6	59.1	52.0
Employed	19.7	48.5	28.3	47.1	13.4	50.1	48.8
Unemployed	18.6	47.6	36.1	55.3	27.9	55.1	52.6
Inactive	36.4	58.3	41.7	63.4	26.7	66.1	64.1
Right-wing ideology	20.6	34.2	27.8	49.1	15.0	53.5	46.0
Non-right-wing ideology	25.6	54.8	35.1	55.7	20.4	57.4	56.2
Religion catholic	21.7	49.5	30.8	52.9	15.2	57.0	46.8
Not catholic	29.3	55.1	39.0	57.5	25.5	56.3	66.6
Low social class	26.2	50.4	26.4	47.1	15.2	54.6	50.8
Non-low social class	24.0	52.4	38.9	59.4	22.6	58.4	57.4
Total	24.8	51.7	34.1	54.7	19.8	56.9	54.9

Source: Own elaboration

among individuals with higher education. The higher likelihood of antipathy among those without higher education is particularly pronounced with respect to Eastern Europe and the North Africa.

— With respect to employment status, the active population (employed and unemployed) shows generally higher antipathy probabilities. In the inactive population, there are generally lower antipathy probabilities and higher sympathy probabilities, with the Eastern European origin being an exception. However, quotients of odds ratios for employed/unemployed are heterogeneous. They show low values for African origins (higher antipathy among the unemployed) and high values for Eastern Europeans, Asians, and those from the European Union (higher antipathy among the employed).

— Self-ascription to low social class is generally associated with higher odds of antipathy, with the exceptions of immigrants from African and EU backgrounds. African origins are striking where greater direct job competition would be expected. In these two cases, the likelihood of dislike is significantly lower for residents of low social class and, in fact, the odds ratio of dislike to likeability is lower for residents of this group.

— Identifying as Catholic is associated with high odds ratios for all immigrant origins except the European Union. Differences in the odds of disliking and liking are particularly pronounced for North Africa (predominantly Muslims), but this is also the case for Latin American immigrants of non-Venezuelan origins.
— Right-wing political ideology orientation is clearly related to higher probabilities of antipathy and lower probabilities of sympathy, with smaller differences for Venezuelan and EU origins. In the case of EU immigration, the average probability of antipathy is lower for residents with this ideological affiliation. Although the mean predicted probability of indifference is higher for these residents, the ratio between the probability of antipathy and sympathy is lower among them than for residents with other ideological orientations.
— The three areas of residence in Tenerife (Metropolitan Area, the South and North) are not associated with large differences in the odds of antipathy/sympathy for any of the origins. However, for immigrants from Eastern Europe, Venezuela and the rest of Latin America, the ratio between the probability of antipathy and the probability of sympathy is twice as high in the Metropolitan Area as in the South. With respect to the reference category (the South of the island), the probabilities of antipathy between residents in the Metropolitan Area and in the North are different, but these differences are smaller in the case of immigration from the European Union. By area, the most significant differences are found between African and Latin American origins in the South.

The profiles of maximum and minimum likelihood of antipathy according to immigration origin (Figure 1) allow us to measure the amount of the joint impact of individuals' characteristics on these probabilities (H3). The pattern of these profiles, as well as the amount and direction of these impacts of individual characteristics, can be described in the following terms:

— As indicated above, the mean probabilities of antipathy are at different levels for the various origin groups, but this figure shows discrete changes with respect to the corresponding means according to the individual profile.
— The combined influence of attributes associated with more dislike (maximum probability) or less dislike (minimum probability) diverge from the mean probabilities with different intensities. In terms of the range of variation of the probability of antipathy, a smaller one is observed for Venezuelans and a very large one for North Africans and Eastern Europeans.
— Asymmetric patterns are observed depending on whether the combination of individual attributes produces a shift away from the mean probability towards the maximum probability or towards the minimum probability. The difference between maximum and average probability is always greater than the difference between minimum and average probability, with one exception (Eastern Europeans).

Table 4. Quotients of odds ratios for antipathy/sympathy according to origin and individual factors

Origin	Sex (1)	Age (1)	Education (1)	Area (1)	Work (1)	Ideology (1)	Religion (1)	Class (1)
North Africans	0.58	0.63	5.61	1.34	0.75	2.13	2.14	0.87
Sub-Saharan Africans	0.85	0.15	3.49	0.56	0.56	4.29	1.35	0.76
Asians	0.98	1.54	2.17	0.83	1.89	2.38	1.86	1.96
Europeans EU	1.01	0.33	1.29	0.98	1.58	0.50	0.83	1.04
Eastern Europeans	1.03	0.39	2.95	1.73	2.77	2.32	1.68	1.83
Venezuelans	1.09	1.33	1.53	2.27	1.05	1.46	1.33	1.22
Other Latin Americans	1.65	0.64	0.92	2.03	0.99	3.21	2.68	2.15

Male/female; 18-34/>64 years; illiterate or primary/higher education; metropolitan area/south; employed/unemployed; right wing/non-right-wing ideology; catholic/not catholic; low/non-low social class.

Source: Own elaboration

— In the profile of maximum antipathy, political orientation (right-wing), educational level (non-higher education), religious affiliation (Catholic), employment status (unemployed) and age (35-64) generally stand out. Exceptions to this regularity include immigrants with EU origins, because of another relationship of antipathy with ideology (non-right-wing), religious affiliation (non-Catholic), employment status (employed) and social class (not low). In the cases of Asia and Eastern Europe, the individuals with the highest probability profile are characterized by their employment status (employed).

The attributes of individuals with extreme profiles in relation to the likelihood of sympathy according to immigration origins are not necessarily complementary to the profiles identified regarding the likelihood of antipathy (Table 5).

Nevertheless, a comparison of profiles with the highest likelihood of antipathy and those with the lowest likelihood of sympathy yields broad overlaps. A striking example among the few divergences are perceptions of EU-origin immigration, for which right-wing ideology, Catholic religion, and low social class characterise the individuals least likely to be sympathetic, while the individuals most likely to be antipathetic possess the opposite attributes (non-right-wing, non-Catholic, non-low class). The case of Venezuela also deserves special mention, not only because of its low levels of antipathy and high levels of sympathy, but also because of the particular characteristics in the individual attributes that define the extreme profiles: those who are less prone to sympathy are of advanced age and employed, while Catholic religion is a

Table 5. Comparison between maximum antipathy vs. minimum sympathy and minimum antipathy vs. maximum sympathy profiles by immigration origin

Origins	Maximum antipathy	Minimal sympathy	Anti-max vs. symp-min divergnces	Minimal antipathy	Maximum Sympathy	Anti-min vs. symp-max divergences
North African	Female, **35-64**, Illiterate or primary education, South, Unemployed, Right-wing, Catholic, Non-low class	Female, **Over 64**, Illiterate or primary education, **Metropolitan area**, Unemployed, Right-wing, Catholic, Non-low class	Age, area	Male, 18-34, Higher education, **Metropolitan area**, Inactive, Non-right-wing, Non-Catholic, Low class	Male, 18-34, Higher education, **North**, Inactive, Non-right-wing, Non-Catholic, Low class	Zone
Sub-Saharan	Female, Over 64, Illiterate or primary **education**, South, Unemployed, Right-wing, Catholic, **Non-low class**	Female, Over 64, **Secondary education**, South, Unemployed, Right-wing, Catholic, **Low class**	Education, class	Male, 18-34, Higher education, Metropolitan area, **Employed**, Non-right-wing, Non-Catholic, **Low class**	Male, 18-34, Higher education, North, **Inactive**, Non-right-wing, Non-Catholic, **Non-low class**	Work, class
Asian	**Male**, 35-64, Illiterate or primary education, South, Employed, Right-wing, Catholic, Low class	**Female, Over 64**, Illiterate or primary education, South, Employed, Right-wing, Catholic, Low class	Sex, age	**Female, Over 64, Higher education**, Metropolitan area, Unemployed, Non-right-wing, Non-Catholic, Non-low Class	**Male, 35-64, Secondary education**, Metropolitan area, Inactive, Non-right-wing, Non-Catholic, Non-low class	Sex, age, education, job
European Community	**Male**, Over 64, Secondary education, South, Employed, **Non-right-wing, Non-Catholic, Non-low class**	**Female**, Over 64, Secondary education, **Metropolitan area**, Employed, **Right-wing, Catholic, Low class**	Sex, area, ideology, religion, class	**Female**, 35-64, Higher education, **Metropolitan area**, Inactive, **Right-wing, Catholic, Low class**	**Male**, 35-64, Higher education, **South**, Inactive, **Non-right-wing, Non-Catholic, Non-low class**	Sex, zone, ideology, religion, class
Eastern Europeans	**Female**, Over 64, **Illiterate or primary education, Metropolitan area**, Employed, Right-wing, **Non-Catholic**, Low class	**Male**, Over 64, **Secondary Education, North**, Employed, **Right-wing, Catholic, Low class**	Sex, education, area, religion	**Male**, 18-34, Higher education, South, Unemployed, Non-right-wing, **Catholic**, Non-low class	**Female**, 18-34, Higher education, South, Unemployed, Non-right-wing, **Non-Catholic**, Non-low class	Sex, religion
Venezuelan	Male, **35-64, Secondary education**, Metropolitan area, **Unemployed**, Right-wing, **Catholic**, Low class	Male, **Over 64, Illiterate or primary education**, Metropolitan area, **Employed**, Right-wing, **Non-Catholic**, Low class	Age, education, work, religion	Female, **Over 64**, Higher education, **South**, Inactive, Non-right-wing, **Non-Catholic**, Non-low class	Female, **18-34**, Higher education, **North**, Inactive, Non-right-wing, **Catholic**, Non-low class	Age, area, religion
Other Latin Americans	Male, Over 64, **Higher education, North, Unemployed**, Right-wing, Catholic, Low class	Male, Over 64, **Illiterate or primary education, Metropolitan area, Employed**, Right-wing, Catholic, Low class	Education, area, work	Female, 18-34, **Secondary education, South**, Inactive, Non-right-wing, Non-Catholic, Non-low class	Female, 18-34, **Higher education, North**, Inactive, Non-right-wing, Non-Catholic, Non-low class	Education, area

Note: The characteristics that change in the profile of maximum antipathy and minimum sympathy are highlighted in bold.

Source: Own elaboration

Figure 1. Probabilities of extreme profiles of antipathy by individual attributes
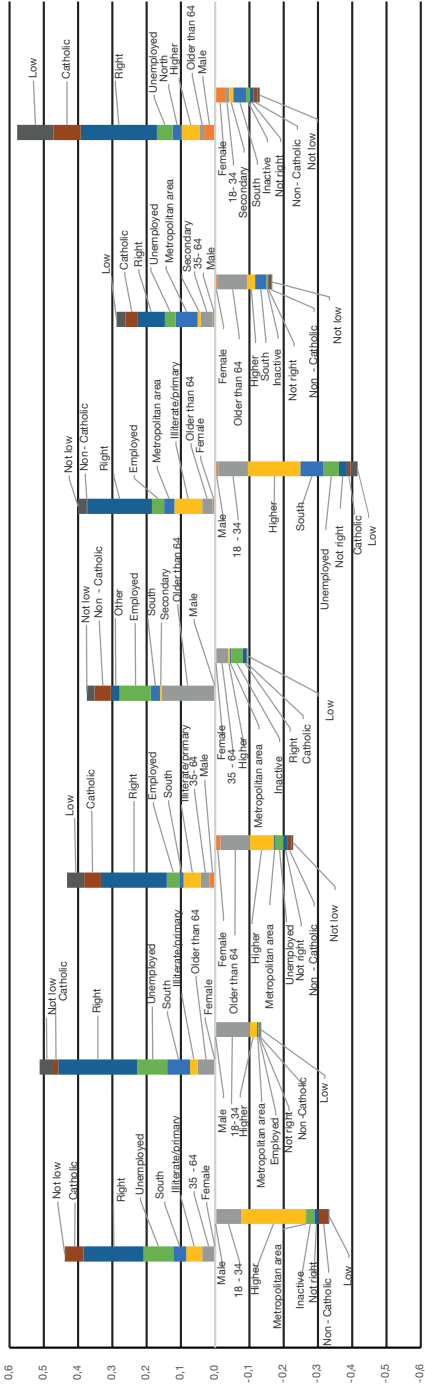
Source: Own elaboration

characteristic of both those more prone to sympathy and those more prone to antipathy.

4. Discussion

The results of this study confirm that immigrants in Tenerife are not perceived as a homogeneous block. Rather, there are significant differences in levels of antipathy and sympathy towards different groups (H1). This result is in line with different studies in both the European and Spanish context (Cea D'Ancona, 2015; Ford, 2011) and consistent with the findings of Hellwig and Sinno (2017). These authors demonstrated that attitudes towards immigrants cannot be understood without considering the characteristics of the specific immigrant group in question. Moreover, different groups activate distinct types of perceived threats depending on the broader social and political context.

Overall, the results do not reveal broad differences according to the sex of the respondent (H2), apart from female expressing less sympathy (but not greater antipathy) towards North African immigrants. Not expressing positive emotions towards a group may be an indicator of what Pettigrew and Meertens (1995) have called subtle prejudice; a form of prejudice in which minorities are accused of violating societal values characterized by the denial of positive emotions towards discriminated minorities. Differentiated threat according to gender roles has been highlighted by other authors such as Valentova and Alieva (2014).

Age is a good predictor of antipathy towards the immigrant population. The results show that the likelihood of antipathy is generally lower among young people. This result is consistent with numerous studies (Coenders and Scheepers, 2003; Hainmueller and Hiscox, 2007; Semyonov et al., 2009) and reflects the fact that in the general population, and in our study sample, being of a younger age is associated with higher educational levels, lower Catholic religious affiliation, weaker identification with right-wing political positions, and higher propensity to be employed; all of which are variables linked to positive attitudes towards immigration.

Higher education is associated with a lower likelihood of antipathy. Research has shown that these results may be linked to the liberalizing effect of education: people with more education may have a greater reflective capacity, a greater capacity for critical analysis, and a tendency to be more accepting of diversity (Ceobanu and Escandell, 2010; Coenders and Sheepers, 2003). The fact that less educated people are more likely to reject immigrants of North African and Eastern European origin may also reflect a greater sensitivity to media discourse and social networks which, in Spain, reproduce a particularly negative image of these groups (Igartua and Muñiz, 2004; Buraschi and Godenau, 2020). It is also possible that people with higher levels of education are more prone to social desirability (Jackman and Muha, 1984).

The results also confirm that the active population shows higher antipathy probabilities than the inactive population. This result can also be

interpreted in the framework of conflict and threat theory (Esses et al., 1998; Quillian, 1995). Employed individuals exhibit higher levels of antipathy towards the Asian and European population, as these groups are more likely to compete with the native population for employment. In contrast, the unemployed population shows more antipathy towards immigrants of African origin who might be perceived as competing for access to social benefits. The results of the qualitative study that complements this research show that negative effects related to the labour market are linked to different immigrant groups: competition for jobs is mostly related to people of Latin American origin; business competition with people of Asian origin; and worsening working conditions with people of African origin (Buraschi and Godenau, 2020).

Competition for employment may also explain the greater tendency of lower-class people to express antipathy towards migrants, except for people of African and EU origin. The difference with respect to these two groups may be because they are not perceived as direct competition in the labour market. In Tenerife, as in other regions of Spain, the migrant population of European origin tends to be inactive or to work in specialized labour niches, while the population of African origin tends to occupy the jobs rejected by the native population. However, a greater rejection of African origins could be expected given that they are often perceived as competition to access social benefits (Buraschi and Godenau, 2020).

This study also shows that individuals who declare themselves to be Catholic tend to reject different groups more strongly. This is also the case for people with a right-wing political orientation. The link between right-wing political orientation and rejection of immigration has been widely documented in various countries (Kessler and Freeman, 2005; Pettigrew et al., 2007). As regards religion, it should be noted that in the Canary Islands, as in the rest of Spain, there tends to be a close link between political ideology, age, and Catholic religious self-ascription in the native population. Research conducted in other contexts has shown that it is not religious practice in itself that is related to negative attitudes towards the immigrant population, but rather the ideological perspective of certain forms of religiosity that are closely linked to the rejection of immigration, such as Christian nationalism in the United States (McDaniel et al., 2012).

Different areas of residence are not associated with major differences in perceptions of immigration, beyond a moderate incidence of the composition of the population of foreign origin in different areas. This is the case, for example, of the greater relative presence of people of North African origin in the southern area of Tenerife. It should be noted that contact alone does not imply better attitudes towards immigration. Numerous studies have highlighted the importance of contextual factors that make contact favourable. Indeed, research on this topic has found variable results depending on the moderators of the relationship between contact and threat (Dixon, 2006; Pettigrew et al., 2007).

Finally, our findings have allowed us to identify the profiles that characterise individuals who are more or less likely to experience antipathy or sympathy towards specific immigrant groups. In particular, the profiles with the highest probability of antipathy vary according to the immigrant group of reference (H3). These are generally people with a right-wing political orientation who are Catholic, do not have higher education, are unemployed, and aged between 35 and 64. However, there are exceptions such as antipathy towards people of European origin and some partial differences in the cases of attitudes towards Asians and Eastern Europeans. But the most novel contribution of this study is that the estimated models offer the possibility of measuring how much the probability of antipathy or sympathy towards an immigrant group changes as a function of individual characteristics. In this sense, although the change in the extreme probabilities of antipathy and sympathy is, in general, notable, the amount of change is different according to the immigrants' origin.

These results can be interpreted within the framework of the differentiated threat model proposed by Meuleman et al. (2019). According to this approach, prejudice towards particular outgroups varies along two axes. On the one hand, the dominant group may attach specific threats to each outgroup. On the other, the different perceived threats do not affect the ingroup homogeneously, but there are threats that mostly affect certain segments of the population. One of the advantages of this model is that it offers the possibility of combining a focus on individual attributes with a focus on contextual factors (Jedinger and Eisentraut, 2020).

This study has some limitations that need to be taken into consideration. Measuring perceptions through surveys suffers from the usual problems of social desirability in the responses, when the people interviewed adapt their answers to what they believe to be socially acceptable. The propensity to answer "the right thing" is far from homogeneous across population segments and correlates, in turn, with the above segmentation variables (Janus, 2010). For example, higher educational levels tend to have a greater social desirability bias. If there is a canon of political correctness, which changes according to culture and historical epochs, this social desirability bias will also affect the association between individual variables and the propensity to openly express extreme positions. In the case of measuring the degree of antipathy/sympathy towards migrants, respondents may not express their actual degree of antipathy if they consider these attitudes to be "politically incorrect". In turn, this bias may correlate with certain attributes of the respondent (e.g., educational level) (An, 2015).

Another limitation of this study is that immigrants are not differentiated solely based on their country of origin, but also by other sociodemographic characteristics, some of which may decisively influence how they are perceived by the native population. The complex interplay of factors such as education level, socioeconomic status, language proficiency, cultural practices, and length of residence likely shapes perceptions in nuanced ways that are not fully captured by categorizing immigrants only by origin or broad regional groupings.

5. Conclusions

The results of this study show that attitudes towards immigration vary according to the immigrant group of reference and that individual attributes can predict very different levels of likelihood of antipathy or sympathy. In fact, the results of the estimations of the logit models quantify the magnitude of the change that these probabilities of antipathy or sympathy may undergo with respect to a given immigrant group as a function of the vector of individual characteristics, and the extreme profiles identified for this purpose reveal that the magnitude of these changes is very high.

In future research, it may be of interest to design surveys that include variables to test theoretical approaches such as differential threat. It may also be useful to study how the likelihood of antipathy linked to each individual attribute could change according to specific social contexts such as sudden increases in migrant arrivals, worsening economic conditions, significant political changes, and so on. In addition, qualitative research can provide complementary data to understand the relationships between specific types of threats and specific profiles of individuals.

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Annex

Table A.1. Estimations of parameters of logit models

	North Africa		Rest of Africa		Asia		European Union		Eastern Europe		Venezuela		Rest of Latin America	
	Antipathy	Indifference	Antipathy	Indifference	Antipathy	Indifference	Antipathy	Indifference	Antipathy	Indifference	Antipathy	Indifference	Antipathy	Indifference
Constant	−1.7788**	−0.3016**	−1.9567**	−1.6001**	−2.0325**	0.2147**	−1.5349**	−1.6062**	−1.0181**	−0.8257**	−3.0730**	−0.6480**	−3.2586**	−1.1279**
Male	−0.5408**	−0.8566**	−0.1600**	−0.3006**	−0.0203**	−0.3636**	0.0111	−0.1722**	0.0305**	0.1672**	0.0826**	−0.0569**	0.5033**	−0.1142**
18-34	−0.4615**	−0.4165**	−1.8930**	−0.2886**	0.4322**	−0.3408**	−1.1018**	−0.5578**	−0.9505**	−0.6972**	0.2864**	−1.2589**	−0.4523**	−0.6099**
35-64	0.1341**	−0.2393**	−0.2780**	−0.0566**	0.4135**	−0.4583**	−1.8399**	−0.5090**	−0.3725**	−0.5503**	0.7002**	−0.6383**	−0.2789**	−0.5032**
Illiterate or primary education	1.7243**	0.5488**	1.2490**	0.7760**	0.7739**	−0.1691**	0.2544**	0.5720**	1.0812*	0.0770**	0.4284**	0.2532**	−0.0869**	0.5790**
Secondary education	1.5390**	0.3833**	1.2292**	0.8830**	0.5029**	−0.2342**	0.3751**	0.7129**	1.1293**	0.6700**	0.4227**	0.2325**	−0.3209**	0.4417**
Metropolitan area	0.2958**	0.8554**	−0.5756**	0.1521**	−0.1869**	−0.1468**	−0.0242*	0.4568**	0.5498**	0.0514**	0.8177**	−0.1300**	0.7057**	−0.1265**
North	−0.0371**	−0.0154	−0.3209**	0.0165*	−0.0198*	−0.0172*	0.0162	0.2807**	0.8518**	0.6012**	0.2640**	−0.3015**	0.4558**	−0.8753**
Employed	0.7890**	1.0513**	−0.0394**	0.5826**	0.5525**	0.6643**	1.5027**	0.4916**	0.9063**	0.9946**	0.4988**	0.8325**	0.6775**	0.6977**
Unemployed	1.0798**	0.9258**	0.5403**	0.4366**	−0.0844**	0.4371**	1.0439**	0.1871**	−0.1112**	−0.0008	0.4482**	0.5007**	0.6903**	0.4473**
Right wing	0.7580**	−0.2790**	1.4575**	0.6513**	0.8677**	−0.0975**	−0.6883**	0.4694**	0.8407**	−0.7759**	0.3796**	−0.0455**	1.1673**	−0.0300**
Catholic	0.7616**	0.1240**	0.3003**	0.2199**	0.6191**	0.2261**	−0.1919**	0.3137**	0.5185**	0.9812**	0.2889**	−0.2795**	0.9862**	0.7951**
Low class	−0.1337**	−0.1255**	−0.2786**	0.2101**	0.6708**	0.5436**	0.0438**	0.6469**	0.6049**	0.4369**	0.1990**	0.1278**	0.7665**	0.0637**

Note: $*p < 0.1$, $**p < 0.01$.

Source: Own elaboration