

## Impact of economic inequality on national stereotypes and dehumanization

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### KEYWORDS

Economic inequality  
Stereotypes  
Dehumanization

### ABSTRACT

Research on social perception has shown that people tend to construct a mental picture of national groups. Much research has been directed at exploring the influence of relevant contextual variables, such as economic inequality, on these representations. The purpose of this study is to investigate how economic inequality affects two key elements of social perception: the stereotypical dimensions of competence, sociability, and morality and the humanity attributed to the inhabitants of nations with high and low economic inequality. Countries with high and low objective inequality were selected and participants were asked to indicate to what extent they considered the inhabitants to be competent, sociable, and moral. We also asked to what extent they attributed humanity and capacity to experience primary and secondary emotions to the inhabitants of these countries. The study was carried out with a Spanish sample ( $N = 245$ ). The results showed the existence of an ambivalent pattern in which more competence and less sociability were attributed to nations with low inequality and the opposite (less competence and more sociability) to nations with high inequality; and a significant tendency was found to attribute more morality to nations with low inequality than to those with high inequality. Parallel mediation analysis showed that only morality significantly connected economic inequality with the attribution of humanity. Significant differences were found in the attribution of humanity but not in the attribution of capacity to experience secondary emotions. The results are discussed in light of the *Stereotype Content Model* and system justification.

## Impacto de la desigualdad económica en los estereotipos nacionales y la deshumanización

### PALABRAS CLAVE

Desigualdad económica  
Estereotipos  
Deshumanización

### RESUMEN

La investigación en percepción social ha revelado que las personas tienden a construir imágenes mentales de grupos nacionales. Muchas investigaciones se ha dirigido a explorar la influencia de variables contextuales relevantes, como la desigualdad económica, en estas representaciones. El propósito de este estudio es investigar cómo la desigualdad económica afecta a dos elementos clave de la percepción social: las dimensiones estereotípicas de competencia, sociabilidad y moralidad, y la humanidad atribuida a los habitantes de países con alta o baja desigualdad económica. Se seleccionaron países con desigualdad económica objetiva alta y baja, y se preguntó a los participantes en qué medida consideraban a los habitantes competentes, sociables y morales. Se preguntó en qué medida les atribuían humanidad y capacidad de experimentar emociones y sentimientos. Se empleó una muestra española ( $N = 245$ ). Los resultados mostraron que existe un patrón ambivalente en el que se atribuye mayor competencia y menor sociabilidad a naciones con baja desigualdad, mientras que lo contrario sucedía para las naciones con alta desigualdad; y se encontró una tendencia significativa a atribuir más moralidad a las naciones con baja desigualdad que a aquellas con alta desigualdad. Un análisis de mediación paralela mostró que únicamente la moralidad influía significativamente en el efecto de la desigualdad económica en la atribución de humanidad. Se encontraron diferencias significativas en la atribución de humanidad, pero no en la atribución de capacidad para experimentar sentimientos. Estos resultados se discuten teniendo en cuenta el *Modelo de Contenido de los Estereotipos* y la justificación del sistema.

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The positive image of a country is fundamental in international communication, especially in times of globalization. This image not only affects commercial or tourist relations between countries, but also shapes attitudes and anticipates the behavior of their inhabitants (Kunczik, 2003). However, despite all the information provided by the Internet and the development of mass tourism, stereotypes and prejudices between countries are still active. Moreover, the rise of nationalism and political polarization in recent times seems to have provided more space for certain segregationist tendencies that increase the functionality of national stereotypes (Arendt et al., 2015).

To the extent that these stereotypes are the result of historical and cultural factors, they could draw a varied range of profiles relating to personality, customs, attitudes, etc. of each national community. However, the Stereotype Content Model (SCM) proposes that this potential variability can be synthesized in two perceptual dimensions that reflect the socio-structural relations between groups (Fiske et al., 2002). On the one hand, the power and international status of a country would be registered in the competence dimension. On the other hand, the warmth dimension would reflect the willingness to cooperate or compete with other countries. Additionally, the warmth dimension also conflates two different aspects: sociability and morality (Rodríguez-Pérez et al., 2021). Sociability is related to the construction of effective relationships, while morality is related to constructing honest and fair relationships (Sacchi et al., 2014).

Furthermore, the SCM hypothesis posits that many social stereotypes are ambivalent, i.e., that groups perceived high in competence are, in turn, perceived as low in sociability and vice versa. This result is highly robust and was also verified in a macro-study by Durante et al. (2013). These authors found that this ambivalence was more frequent and reinforced in societies with high income inequality as the trade-off between competence and warmth was extremely useful for justifying the established status quo, while univalent vectors were more frequent in nations with a low level of inequality (Durante et al., 2017). Similarly, in another study by Tanjitiyanond et al. (2022), results showed that economic inequality widened the gap between the wealthiest and the poorest, resulting in more ambivalent stereotypes of competence and sociability between these groups. This ambivalent pattern in stereotypes of competence and sociability in situations of high inequality is not a trivial matter, as the ambivalent distribution of stereotypes may be a way to justify such inequality (Durante et al., 2013; Jost et al., 2005; Kay et al., 2005).

Although a two-dimensional model of stereotypes reflects the representation that perceivers form about a wide range of groups, researchers have suggested that it overlooks important nuances that differentiate some groups from others (Leach et al., 2015). In particular, it has been argued that it would be appropriate to distinguish between both sub-categories of warmth, sociability and morality, as morality plays a distinct and important role in group stereotypes (Brambilla et al., 2011). As stated previously, sociability would represent the characteristics that favor the creation of bonds with others, while morality would represent the moral assessment made of the means

and ends of the group. In fact, in light of this distinction, the authors report many results showing that morality is what best determines the positivity of group impressions (Brambilla et al., 2012). Moreover, morality is suggested to have greater predictive potential in emotional and behavioral reactions toward social goals (see the Moral Primacy Model [MPM] of impression development; Brambilla et al., 2021). Now, if we incorporate the moral dimension into the national stereotype, how will it be affected by economic inequality? What will it add to the ambivalence found in studies on stereotypes? These questions reflect the first purpose of this research, which is to test the role of a country's economic inequality on the competence, sociability, and morality dimensions of the national stereotype.

### *Economic inequality, stereotypes, and dehumanization*

Many studies have shown that the distribution of wealth in a country affects not only consumption behaviors or subjective well-being, but also areas that have to do with its moral dimension. Specifically, an unequal wealth distribution affects the way social norms are perceived by making people place less value on cooperation with and generosity towards others (e.g., Nishi et al., 2015) and causing people to be more predisposed to aggressive behaviors (e.g., Greitemeyer & Sagioglou, 2017) as well as anomie and immoral behaviors (e.g., Khan, 2022; Sánchez-Rodríguez, 2022). Thus, studies that examine how inequality influences the way people of high and low socioeconomic status are perceived are highly relevant since a great deal of evidence shows that perceiving high economic inequality is positively correlated with wealth-based categorization (Jetten & Peters, 2019). Indeed, when people perceive high levels of inequality, they tend to stereotype the rich as being more competent and the poor as being more incompetent (Connor et al., 2021; Tanjitiyanond et al., 2022). Now, does this result hold true with respect to morality? Only one study provides some relevant data to answer this question. Tanjitiyanond et al. (2022) found that economic inequality makes intergroup dynamics between social classes more negative—perceiving greater competition and lower trust—and that this negatively biases the perceived morality of both rich and poor members of a society. For their part, Phalet and Poppe (1997) found that the better attitude of recipients towards more egalitarian countries is accompanied by a higher attribution of morality than to countries with high inequality.

This conceptual distinction between sociability and morality is relevant not only for the formation of impressions, but also for the ascription of humanity, a process that serves to legitimize different types of inequality (for reviews, see Haslam & Loughnan, 2014; Haslam & Stratemeyer, 2016). Indeed, the skills needed to demonstrate competence (rationality and maturity) and morality (moral sensitivity) are both higher-order cognitions that are unique to human beings (Haslam, 2006). In line with this reasoning, research has revealed some convergence between the attribution of humanity and the dimensions of the Stereotype Content Model (Loughnan & Haslam, 2007; Paladino & Vaes, 2009; Rodríguez-Pérez et al., 2021). These studies

have mainly focused on the convergence between SCM and the dimensions proposed by Haslam in his Dual Model of Dehumanization: Human Nature (HN) and Human Uniqueness (HU). Human nature traits are those shared by human and non-human animals; lacking these traits makes individuals or groups seem emotionless, cold, and rigid. Conversely, traits of human uniqueness are considered exclusively human and involve complex reasoning; when these traits are not attributed to individuals and groups, they are perceived as unrefined, unreasonable, vulgar, and immoral (Haslam, 2006; Haslam et al., 2008).

In this sense, Vaes and Paladino (2009) found that groups that were considered highly competent presented more uniquely human traits than those that were considered incompetent. Rodriguez-Perez et al. (2021) also studied how HN and HU (HU; Haslam, 2006) traits were related to the three stereotypical dimensions of five national groups. Regression analysis showed that it was morality and competence attribution that predicted HU trait attribution, while sociability was the strongest predictor in relation to HN traits. Furthermore, other studies on the effect of economic inequality on the perception of humanness have revealed a generalized tendency to consider people of low socioeconomic status as animals and, consequently, to deny them HU traits (Loughnan et al., 2014; Sainz et al., 2019; Sainz et al., 2022).

Therefore, a second objective of this research is to verify how the attribution of humanity is affected by the economic inequality that exists in each country. Specifically, we are interested in testing the association between the dimensions of competence and morality and the attribution of humanity and determining how the economic inequality existing in different nations impacts this relationship.

## Overview

Given these antecedents, the purpose of this study is to address the impact of economic inequality on national stereotypes and the attribution of humanity to different countries. Specifically, we are interested in (a) determining whether there are differences in the morality dimension in the two stereotypical patterns of ambivalence (high in competence and low in sociability vs. low in competence and high in sociability); (b) confirming whether there is a robust tendency to dehumanize countries with high inequality; and (c) testing what mediating potential the stereotypical dimensions have in the relationship between economic inequality and the dehumanization of a country. To test these three objectives, we selected two groups of countries: countries with high inequality and countries with low inequality, and recorded measures of competence attribution, sociability, and morality, as well as two measures of dehumanization. According to the hypotheses of this study, firstly, we expect that, to justify the level of economic inequality in a country, participants will attribute an ambivalent stereotypic pattern of competence and sociability. Specifically, we expect participants will attribute more competence and less sociability to countries with low inequality and less competence and more sociability to countries with high inequality (H1); second, it is expected that more morality will be attributed to countries with

low inequality than to countries with high inequality (H2); and third, that countries with high inequality will be more dehumanized than countries with low inequality (H3). Finally, due to the relationship between competence and morality and the attribution of uniquely human qualities to individuals and groups (e.g., complex reasoning, moral judgment, goal achievement, experiencing secondary emotions, etc.), we expect competence and morality scores, but not sociability, to be significant mediators of the relationship between the level of inequality and the dehumanization of national groups (H4), as for this study we focus on these uniquely human characteristics, concretely cognitive abilities and the experience of secondary emotions.

## Method

### *Participants and design*

As we wanted to center our attention on the effect of economic inequality on how members of national groups are viewed, we followed a single factor design with two levels: countries group (High Inequality vs. Low Inequality) and measured three dependent variables. We calculated the sample size with G\*Power (Faul et al., 2009). The analysis indicated that we needed 210 participants (ANOVA: Fixed effects, special, main effects and interactions,  $f = .25$ , 95% power,  $\alpha = .05$ ). Participants were recruited via Prolific.co and paid for volunteering in a study about the perception of different social contexts. A total of 25 participants were excluded due to failing attention checks or not filling out the entire questionnaire. The final sample was composed of 245 Spanish participants (47.8% women,  $M_{age} = 30.96$ ,  $SD = 9.15$ ).

### *Materials and procedure*

We selected a number of countries with different levels of objective economic inequality based on various objective indicators such as the GINI index, Gross Domestic product (GDP), and nominal GDP. The Gini Index measures how the distributions of income between individuals in a country deviated from a perfectly equal distribution. Theoretically, a country with a Gini index of 0 represents perfect equality, while a country with an index of 100 implies perfect inequality. However, real GINI values do not reach 0 or 100, the highest values are around 63 while the lowest are around 24, thus we selected countries with a Gini value over 35 as our unequal countries and lower as our equal ones (Data from the Spanish Ministry of Economy, Trade, and Business, 2023). In addition, as the wealth of a country is also relevant, we aimed to select countries for both the equal and unequal categories that varied in objective wealth. To do this, we employed data from the world bank and established three groups of countries based on their GDP, combining countries with high and low GINI values (Japan-India-Brazil for high GDP; Canada-Turkey-Switzerland for medium GDP; Ethiopia-Slovenia for low GDP).

The final list comprised eight countries: Brazil, India, Turkey, and Ethiopia as countries with high objective inequality

and Canada, Switzerland, Japan, and Slovenia as countries with low objective inequality. In addition, as a question in the questionnaire, we asked participants to answer by indicating how unequal they considered the society they were reading about to be on a scale from 1 = *Not at all unequal* to 9 = *Very unequal*. To ensure that the four countries in each category had similar levels of attributed economic inequality, we performed an ANOVA. The analysis showed that in the four countries of the two categories there were no differences in the level of attributed economic inequality ( $p = .09$  for the four high-inequality countries and  $p = .17$  for the four low-inequality countries). Moreover, analysis of the responses allowed us to confirm our manipulation, as the high-objective inequality group ( $M = 7.78$ ,  $SD = 1.44$ ) was seen as being more unequal than the low-objective inequality group ( $M = 5.45$ ,  $SD = 1.75$ ,  $p < .001$ ). Participants were randomly assigned to one of the questionnaires about a particular country. After knowing the national group that they had to consider when answering, participants were presented with the following measures:

**Stereotypes.** To obtain the stereotypic profile, participants were asked to indicate on a seven-point Likert scale ranging from 1 = *They are not* to 7 = *They totally are* to what extent they considered the average members of the described society to be represented by a list of stereotypic characteristics. We employed the list of stereotypical dimensions from the amplified *Stereotype Content Model* proposed by Brambilla et al. (2011). This list consists of nine items, of which three measure competence (skillful, competent, and intelligent;  $\alpha = .83$ ), three measure sociability (warm, friendly, and likeable;  $\alpha = .86$ ), and the other three measure morality (sincere, honest, and trustworthy;  $\alpha = .86$ ).

**Dehumanization.** To measure dehumanization, we employed an explicit dehumanization scale (an adapted version of the *Ascent of Human Scale*) and an implicit one (Infrahumanization).

**Ascent of Human Scale.** We followed the method employed by Chen-Xia et al. (2022) to adapt the *Ascent of Human Scale* (Kteily et al., 2015). This is an explicit measure of the attribution of humanity. Concretely, it captures animalistic dehumanization, as the material employed distinguishes between the early stages of human evolution and modern humans. In other words, this measure captures the attribution of full cognitive abilities and cultural expression to other groups (Kteily et al., 2015). Thus, we asked participants to rank the inhabitants of the country according to how they represented the most evolved of the human species, for example, "If you had to encapsulate your impression of the inhabitants of Brazil at one point on a Human-Animal scale, where would you place the inhabitants of this society?" Participants had to answer in a horizontal slide from 0 = *More like an animal* to 100 = *More like a human* where they would place the average inhabitants of the country.

**Infrahumanization.** Infra-humanization consists of considering others less human by giving them less uniquely human characteristics, specifically the ability of experiencing secondary emotions, as opposed to primary emotions, associated to both human and non-human animals (Rodríguez-Pérez et al.,

2011). Thus, we measured infrahumanization through the attribution of primary and secondary emotions. Participants had to indicate whether they considered the members of the country capable of a series of emotions on a scale from 1 = *They don't feel this at all* to 7 = *They totally feel this*. The list consisted of four primary emotions (pleasure, happiness, desire, and affection;  $\alpha = .92$ ) and four secondary emotions (empathy, hope, gratitude, and satisfaction;  $\alpha = .90$ ). Items were selected from a normative study (Rodríguez-Pérez et al., 2014) and were tested to verify that they varied in humanity but not in valence. Primary and secondary emotions were associated with different levels of humanness ( $M = 2.57$ ,  $SD = 0.41$  and  $M = 4.81$ ,  $SD = .66$ , respectively;  $t(6) = -5.78$ ,  $p = .001$ ,  $d = 4.08$ , 95% [0.64, 7.52]) on a scale ranging from 1 = *Emotion shared by animals and humans* to 7 = *Emotion only human*. Simultaneously, the selected primary and secondary emotions did not vary on their valence ( $M = 6.28$ ,  $SD = .54$  and  $M = 5.78$ ,  $SD = .51$  respectively;  $t(6) = 1.43$ ,  $p = .204$ ,  $d = -.95$ , 95% [-3.02, 1.12]) on a scale from 1 = *Very unpleasant emotion* to 7 = *Very pleasant emotion*.

#### Sociodemographic data

We asked participants about their gender, age, and educational attainment, with primary studies as the lowest level and college studies as the highest.

#### Analysis of the data

First, a series of analyses of variance (ANOVA) was conducted to examine differences between countries with high vs. low economic inequality on the three stereotypic dimensions and on the two measures of dehumanization. To test the proposed model linking economic inequality to dehumanization through morality and competence dimensions, but not through sociability, we conducted a parallel mediation analysis using model 4 of the Hayes (2013) PROCESS macro, with 95% confidence intervals (CI) and 10,000 bootstrapping samples. Bootstrapping in mediation analysis involves randomly sampling a data set with a replacement to produce confidence intervals for direct and indirect mediation effects (Shrout & Bolger, 2002). To make the mediation analysis clearer for interpretation, the Inequality variable was dummy-coded (0 = *Low economic inequality*, 1 = *High economic inequality*). All other variables were continuous. Direct, indirect, and total effects were examined. It is proposed that mediation exists when the bootstrapped 95% confidence intervals of the indirect effect do not include zero.

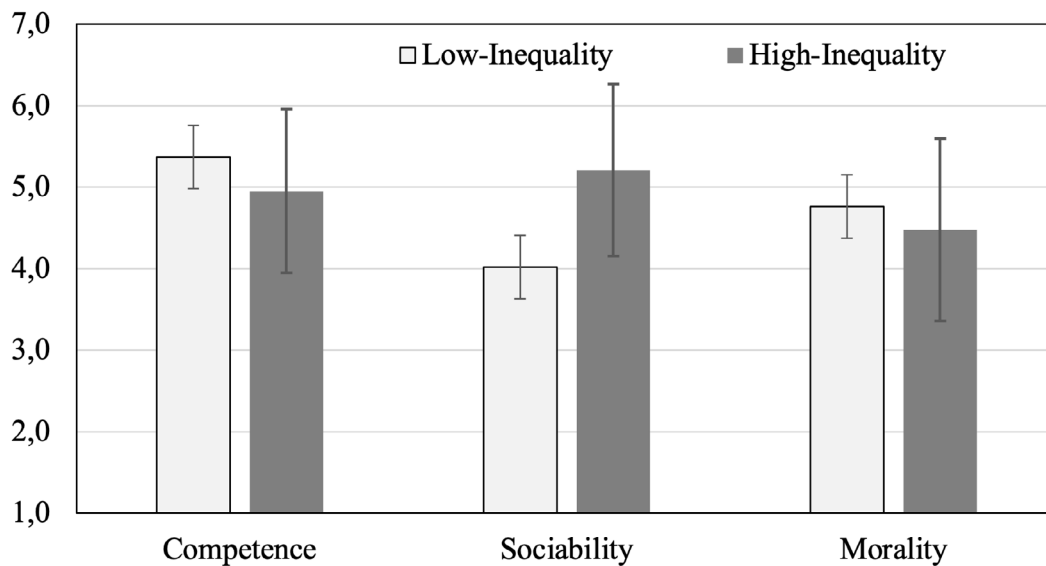
## Results

#### Mean differences in stereotypes and dehumanization

In order to verify whether participants attributed more competence and less sociability to countries with low inequality, and less competence and more sociability to countries with high

**Figure 1**

Distribution of values in the three stereotypical dimensions in nations with high and low economic inequality



**Table 1**

Means and standard deviations of overt and covert dehumanization measures for nations with high and low economic inequality

	High-inequality Group	Low-inequality Group
Attribution of humanity	85.31 (19.58) <sub>a</sub>	95.52 (10.21) <sub>b</sub>
Infrahumanization	Primary emotions	5.39 (1.28) <sub>b</sub>
	Secondary emotions	5.49 (1.17) <sub>a</sub>

Note. Row means with common subscripts (a, b) indicate the absence of a significant differences at  $p < .05$ .

inequality, we carried out a mixed design ANOVA of 2 (Group: High Inequality vs. Low Inequality) x 3 (Stereotypes: Competence vs. Sociability vs. Morality) with repeated measures in the last variable. Results showed a main effect of stereotype ( $F_{(2,242)} = 44.64; p < .001; \eta^2_p = .270$ ). Specifically, participants attributed more competence ( $M = 5.16; SD = 1$ ) than sociability ( $M = 4.61; SD = 1.25$ ) and morality ( $M = 4.62; SD = 1.07$ ). However, relevant to our hypothesis was the significant interaction ( $F_{(2,242)} = 59.94, p < .001, \eta^2_p = .331$ ). Analysis of the simple interaction effects show that the low-inequality group was seen as the most competent ( $M = 5.37; SD = .96$ ) compared to sociable ( $M = 4.02; SD = 1.14; p < .001$ ), while in the high-inequality group countries, this difference was inverse but non-significant ( $M = 5.2; SD = 1.05$  for sociability and  $M = 4.95; SD = 1$  for competence;  $p = .075$ ). Additionally, simple comparisons for competence and sociability between both groups revealed significant differences for competence ( $F_{(2,242)} = 10.94, p = .001, \eta^2_p = .043$ ) and for sociability ( $F_{(2,242)} = 72.27, p < .001, \eta^2_p = .23$ ) that is, equal countries were attributed more competence than unequal countries, while unequal countries were attributed more sociability than equal countries. These data partially support Hypothesis 1 about the ambivalent pattern of groups in contexts of differing economic inequality. Further-

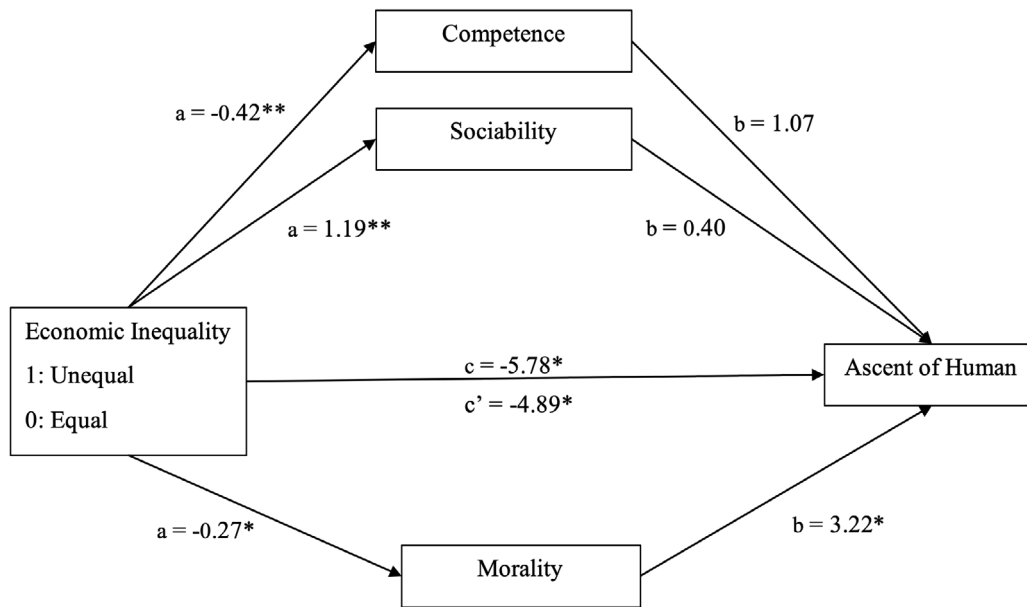
more, as expected (H2), participants attributed more morality to countries with low inequality ( $M = 4.74; SD = 1$ ) than to those with high inequality ( $M = 4.48; SD = 1.12; p = .035$ ). Figure 1 presents the bar charts for these results.

We also conducted ANOVA with the explicit and implicit measures of dehumanization. Analysis of responses to the *Ascent of Human Scale* resulted in a significant difference as a function of inequality ( $F_{(1,243)} = 8.27; p = .004; \eta^2_p = .033$ ) as the high inequality group was considered less human ( $M = 85.78; SD = 18.86$ ) than the low inequality group ( $M = 91.56; SD = 11$ ). In parallel, the 2 (Inequality: High vs. Low) x 2 (emotion attribution: primary vs. secondary) ANOVA yielded two main effects: the one corresponding to inequality level ( $F_{(1,243)} = 7.61; p = .006; \eta^2_p = .030$ ) and the one corresponding to emotion type ( $F_{(1,243)} = 5.16; p = .024; \eta^2_p = .021$ ; see mean scores in Table 1).

However, the significant interaction found ( $F_{(1,243)} = 26.66; p < .001; \eta^2_p = .099$ ) shows that there is no significant difference in the attribution of secondary emotions as a function of economic inequality, but that attribution of primary emotions differs significantly ( $M = 5.97$  vs.  $M = 5.39$  for high and low inequality nations, respectively). This does not support the hypothesis although the data follow the pattern reported in many studies on infrahumanization which find that participants attribute more

**Figure 2**

*The mediational role of competence, sociability and morality on the relationship between economic inequality and overt dehumanization*



Note. Coefficients are statistically significant at \* $p < .05$ , \*\* $p < .001$ .

primary than secondary emotions to the high-inequality group ( $p < .001$ ), while attributing more secondary than primary emotions to the low-inequality group of nations ( $p = .041$ ).

*Parallel mediation analysis*

Before conducting the entire parallel mediation model analysis to test whether differences in overt dehumanization, as a function of economic inequality, were mediated by the stereotypical dimensions of morality and competence, but not by sociability we confirmed the assumptions necessary to being able to run the analysis. Pearson’s correlation analysis was used in this study to determine the correlations between the variables. The results show that there were significant correlations between the variables of the model without evidence of multicollinearity between them (VIF values between 1 and 2). Figure 2 shows the results of the parallel mediation analysis.

As can be seen, the mediation analysis highlights a significant total ( $\beta = -5.78$ ,  $SE = 2.01$ ,  $p = .004$ ) and direct effect ( $\beta = -4.89$ ,  $SE = 2.39$ ,  $p = .041$ ), of economic inequality in the attribution of humanity. Secondly, high economic inequality has a negative association with the dimension of competence ( $\beta = -0.42$ ,  $SE = .14$ ,  $p = .001$ ) and morality ( $\beta = -0.27$ ,  $SE = .14$ ,  $p = .035$ ), and a positive association with sociability ( $\beta = 1.19$ ,  $SE = .14$ ,  $p < .001$ ). However, even when economic inequality was associated to all three stereotypic dimensions, only morality was significantly associated with the attribution of humanity ( $\beta = 3.22$ ,  $SE = 1.21$ ,  $p = .008$ ), while the relationship of competence and sociability with the attribution of humanity was non-significant ( $\beta = 1.07$ ,  $SE = 1.22$ ,  $p = .384$  for competence;  $\beta = 0.40$ ,  $SE = .99$ ,  $p = .683$  for sociability). Finally, the

analysis of the indirect effects revealed that only morality was a significant mediator ( $IE = -.92$ ,  $SE = .59$ , 95% CI [-2.295, -.013]), while competence and sociability were not ( $IE = -.44$ ,  $SE = .50$ , 95% CI [-1.556, .499] for competence;  $IE = .48$ ,  $SE = 1.24$ , 95% CI [-2.051, 2.902] for sociability). This results partially support H4, as we found that only morality significantly predicted the relationship between economic inequality and attributions of humanity.

**General discussion**

This study aimed to explore whether the national stereotype of countries with low and high economic inequality were perceived differently in terms of stereotypes and humanity. As expected in H1, inhabitants of countries with low economic inequality were stereotyped as more competent and less sociable than inhabitants from countries with high economic inequality. The reverse occurred for countries with high economic inequality, which were seen as more sociable and less competent than the ones with low economic inequality. This confirms the ambivalence hypothesis found by several authors (Kervyn et al., 2009; Kervyn et al., 2010; Yzerbyt et al., 2008). Moreover, these studies argue that this ambivalence serves to justify why some nations are less unequal or wealthier than others. In this sense, ambivalent national stereotypes could help people to justify the differences between countries with high and low economic inequality (Durante et al., 2013; Jost et al., 2005; Kay et al., 2005). Moreover, in line with H2, the morality dimension was significantly more attributed to inhabitants of low-inequality countries than of high-inequality countries, possibly as a way to associate more justice and morality with low inequality, but

also as a way to emphasize the link between competence and morality over the link between sociability and morality (Oldmeadow, 2018). This is also in line with the tradition connecting economics and criminal justice that has repeatedly found links between inequality and immoral behaviors such as theft (Choe, 2008) or violent crime (Hsieh & Pugh, 1993).

Regarding the dehumanization hypothesis, we expected that members of unequal societies would be more dehumanized than those of equal societies. In this study, we confirmed this hypothesis with responses to the *Blatant Dehumanization Scale* (Kteily et al., 2016) as participants attributed more humanity to countries with low inequality (Loughnan et al., 2014; Sainz et al., 2019). However, we did not find significant differences for less blatant dehumanization measures such as the attribution of secondary emotions, leading to only a partial support for H3. These results on dehumanization are highly related to what happens with morality. In fact, previous work has shown how dehumanization and morality are related and how moral sensitivity is a strong predictor of what is uniquely human (Haslam, 2006; Rodríguez et al., 2021). It is possible, therefore, that economic inequality constitutes a frame of reference in which there is a high prevalence of immoral behavior on the part of many members of that society. This possibility is in line with previous research on stereotypes and social class, which reveals that both rich and poor groups can be attributed low morality in societies with high inequality (Moreno-Bella et al., 2019; Sainz et al., 2019). In line with this, the mediational analysis confirmed the importance of morality dimension in the relationship between inequality and dehumanization over the other stereotypical dimensions. Although we expected competence to also play an important part in this relationship (H4). The findings of the mediation align with Brambilla et al.'s (2011; 2012) proposal regarding the distinctive role of morality in forming a positive image of other groups. According to these authors, of all the characteristics that can be attributed to social groups, morality is one of the most relevant for global evaluations. Previous studies have also demonstrated the relationship between dehumanization and morality, specifically how denying moral sensitivity to other people or groups promotes their dehumanization (Rodríguez et al., 2021). Thus, our results not only confirm this trend but also add new elements to this equation. Specifically, they show that contextual characteristics in which these groups live, such as economic inequality, affect the morality attributed to their members. That is, greater inequality leads to lower attribution of morality, which translates into greater dehumanization.

In conclusion, through this study we have found that economic inequality influences the moral dimension of stereotypes and the ambivalent pattern of countries with high and low inequality, and this moral dimension, together with competence, affects the attribution of humanity to members of different societies.

#### *Limitations and suggestions for future studies*

Undoubtedly, this study has some limitations. In the first place, we acknowledge that using real countries may lead to a decrease in internal validity. However, in this study, we aimed

to maintain ecological validity by examining whether the effect of economic inequality on social perception, in terms of stereotype attribution and humanity, also occurs when evaluating real national groups.

However, when working with real countries we did not take into account the information available to the participants about each nation. This information could be relevant, especially because, as Rodríguez-Pérez et al. (2011) pointed out, the effect of similarity, friendship, and knowledge of outgroups directly affects the willingness to dehumanize them. In this sense, even though we employed both unequal and equal countries from different continental areas to control for the effect of proximity and prevent the association of inequality/equality with a single region on Earth, and also avoided employing national groups that are stigmatized in Spain (e.g. Moroccans; Vázquez-Flores et al., 2023), it is quite possible that the Spanish participants had greater knowledge about and a better feeling of friendship with countries considered low in inequality than in those considered high in inequality. For this reason, it would be interesting to check if the results of this study replicate using different samples from different countries, including WEIRD and non-WEIRD samples, and how variables such as proximity, ethnicity, or religion may affect the associations found in this study.

Second, this study did not control for the level of wealth and status of the countries presented, so it is possible that in some cases there was an overlap between wealth and low economic inequality. However, considering that previous studies show that that people associate greater economic inequality with less wealth (Sánchez-Rodríguez et al., 2019), we acknowledge the possibility that this overlap may have occurred with any unequal country chosen. In future research, it will be interesting to check if both socioeconomic variables have a combined effect.

Therefore, although the division between countries with high and low inequality was confirmed by the subjective perception held by the participants, to what extent could the utilization countries that were real and familiar to the participants have perturbed the manipulation of the independent variable? To what extent is perceived status responsible for the differential attribution of competence, sociability, and morality of the countries studied? All these possibilities should be the subject of future studies on national stereotypes. Moreover, there remains an open avenue to study whether counter-stereotypical reporting of morality decreases the dehumanization of members of unequal societies, or even whether the fact that the population of unequal societies is seen as more immoral affects how moral transgressions are evaluated or justified.

#### *Practical implications*

It is important to recognize that stereotypes can be powerful tools for social change. Certainly, much of the theorizing around stereotypes has focused on their potential to justify the status quo, highlighting their role in legitimizing and maintaining social inequalities (Jost & Banaji, 1994; Jost et al., 2005). However, this does not preclude the possibility of working in a

more positive direction by discussing the possibility of achieving more equitable societies. For example, knowing that inequality is perceived to be immoral, and this leads to dehumanization, could help us to work towards reducing the dehumanization of national groups that suffer more economic distress and, that in turn, would lead to greater equality. In addition, stereotypes regarding high-status countries as competent but cold and those of low-status groups as incompetent but warm can work by showing people that social inequalities are not only unfair, but also often illegitimate and immoral. This would provide moral and intellectual support for social change towards higher social welfare, reducing the negative impact of dehumanization and undermining the idea that members of unequal countries pose a threat to relations with citizens of those countries (Borinca et al., 2023).

In short, numerous studies show that economic inequality poses a threat to social welfare, especially in terms of public health or criminality (Brush, 2007; Buttrick & Oishi, 2017; Choe, 2008; Hsieh & Pugh, 1993). However, this study also demonstrates another important way in which inequality is intertwined with social welfare: its influence on how other groups are perceived. Specifically, economic inequality makes others seem less moral and, consequently, less human. This detrimental effect of economic inequality on social perception becomes even more important for social welfare when considering its impact on national stereotypes and, in turn, international relations.

### Author contributions

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### Declaration of interest

The authors declare that there is no conflict of interest.

### Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

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