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Weight, Stigma, and Attitudes toward Immigrants*

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Abstract

Building on social identity theory, we suggest that natives from stereotyped groups tend to value cultural distance more and think that immigrants are not good for the economy and the fiscal system. We draw upon research showing that overweight and obese individuals suffer from social stigma and discrimination and we investigate the relationship between high body mass and attitudes toward immigrants in Europe. We exploit the appointment of the Belgian Minister of Health to provide causal evidence that stigmatization and stereotyping contribute to negative attitudes toward immigrants. Furthermore, a survey experiment shows that individuals with a higher body mass index prioritize cultural factors over economic ones when facing immigrants.

Keywords: Attitudes toward Immigrants; Social Identity Theory; Stigma

JEL Codes: J14; J15; J71; Z1

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1 Introduction

The literature on attitudes toward immigrants largely builds on social identity theory (Alesina and Tabellini, 2024, Collier, 2013, Shayo, 2020). Studies in economics and social sciences have focused on how an increase in the group size of immigrants and the role of saliency may trigger identity threats among the native population that consequently develop negative attitudes toward immigrants (Bonomi et al., 2021, Bordalo et al., 2020, Colussi et al., 2021, Gagliarducci and Tabellini, 2022, Grigorieff et al., 2020, Schneider-Strawczynski and Valette, 2023).

In this paper, we explore an additional mechanism related to social identity theory that influences attitudes toward immigrants. Specifically, we investigate how stereotyping applied to natives may increase negative attitudes toward immigrants.

We build on research showing that overweight and obese individuals suffer from social stigma and discrimination (Cawley, 2004, Pearl and Hopkins, 2022, Puhl and Heuer, 2009, Spahlholz et al., 2016, **?**, **?**). Individuals with excess weight are often perceived as people who are unable to self-control since overweight is mostly viewed as a voluntary choice that can be reversed through eating less and exercise. Such prevailing beliefs on overweighting and obesity are obviously biased and do not take into account the complexity of the phenomenon (Rubino et al., 2020). Weight stigma causes physical and psychological consequences. In particular, the weight stigma may be internalized by individuals who then feel to belong to a low-valued social group (Hunger et al., 2015, Ramos Salas et al., 2019). Literature in social and political psychology indicates that when individuals feel to belong to lower-ranked social groups, they tend to compare themselves with and develop negative attitudes toward groups of even lower status (Festinger, 1954, Hogg, 2016, Tajfel and Turner, 2004). If this is true, negative stereotypes toward overweight or obese individuals may increase out-group conflict, especially toward other groups which are perceived as low-standing groups in society such as immigrants (Alesina et al., 2023, Bordalo et al., 2020, Fazio and Florio, 2023).

We use survey data from the European Social Survey (ESS) to investigate the association between being stigmatized and attitudes toward immigrants. To investigate how and whether social stigma may affect opinions on immigration, we use being overweight or obese as a stand-in for membership in a stigmatized group. Our descriptive analysis highlights a sizeable and significant association between body size and negative attitudes toward immigrants. Specifically, we find that having a higher body weight is associated with stronger beliefs that immigrants are not good for the economy, are a fiscal burden and are a threat to natives' culture. We also find an association between being overweight or obese and believing that the government is more likely to treat immigrants better than survey respondents. The findings remain robust even when controlling for a

substantial number of confounding factors, such as unemployment spells, education, gender, age, household income, subjective health status, feelings about one's income, religious affiliation, ethnic status, and parental background. These results rule out the most direct hypothesis suggesting that the negative relationship between being overweight or obese and attitudes toward immigrants is driven by labor market outcomes or education.

Since the literature suggests that body size might differentially affect male and female societal outcomes (see e.g. Busetta et al., 2020, Campos-Vazquez and Gonzalez, 2020, Chiappori et al., 2012, Villar, Jaume García and Quintana-Domeque, Climent, 2009), we investigate whether a particular gender is driving our results. However, we find that the negative association between body size and negative attitudes toward immigrants applies to both men and women. Similarly, we check whether political orientation might drive these associations, as anthropometric measures and attractiveness correlate with political ideology (see e.g. Arunachalam and Watson, 2018, Fazio, 2022, Peterson and Palmer, 2017). We find no differences between left-wing and right-wing individuals.

We employ a survey and a natural experiment to pinpoint possible causal relationships. We take advantage of a survey experiment -embedded in the ESS- designed to test whether individuals' opposition to immigration is mainly driven by cultural or economic perceived threats. We find that overweight and obese individuals value the cultural distance of immigrants more than other factors such as skills. This result suggests that stereotyped individuals may value cultural identity more.

Using a natural experiment, we offer causal evidence that sentiments toward immigrants are driven by experienced stigmatization and weight-based stereotypes. We leverage the appointment of Maggie De Block as the Belgian Minister of Health in October 2014, which coincided with the survey fielding period. Following her appointment, Minister De Block faced criticism and was deemed unsuitable for her role due to her obesity. By exploiting the timing of the interviews, we reveal that attitudes toward immigrants were particularly negative during this episode. We present a battery of placebo tests to support the causal interpretation of our findings.

Our results contribute to different strands of the literature.

We contribute to the literature investigating attitudes toward immigrants. Individual attitudes toward immigrants influence governmental policies (Alesina and Tabellini, 2024). However, such attitudes -and the corresponding political preferences- are often biased by political ideologies and misperceptions (Deiana et al., 2023, Florio, 2021, Grigorieff et al., 2020). Meiske (2022) demonstrates through an experiment that also immigrants may develop negative attitudes toward newly arriving immigrants. This study aligns closely with ours, as the author reveals that her findings are influenced by the fact that when an ethnic group is subject to negative stereotypes, individuals belonging to this group may develop negative attitudes toward lower-ranked ethnic groups. Our work complements these results and contributes to the existing literature by showcasing a possible social

competition between low-ranked social groups differentiating between immigrants and natives.

Our results also contribute to the literature on social identity and political economy. The seminal paper by Akerlof and Kranton (2000) introduced identity in economics, while Shayo (2009) applied social identity theory to political economy. The standard model of social identity in political economy assumes that voters may identify either with their class or with their national identity when voting for redistributive policies. Voters seek to maximize their utility by increasing the status of their identity group. Hence, if a working-class voter identifies more with class, she will vote for higher redistribution to improve the status of her group. On the other hand, the working-class voter votes for less redistribution if she identifies more with the nation. Bonomi et al. (2021) extend this framework showing that in addition to group status, the saliency on the political divide is a crucial driver for identity formation in politics. In other words, the authors suggest that if the cultural divide is more salient than the economic divide, voters identify with their cultural group - and viceversa. We add to this literature by showing that voters experiencing stereotyping may show higher attachment to their cultural group when facing immigrants.

Last, we contribute to the literature investigating how body image and anthropometric characteristics affect individuals' perceptions and attitudes. Attractiveness and body size are associated with a variety of behaviors and outcomes, from labor market and economic outcomes (Hamermesh and Biddle, 1994, Macchi, 2023, Mobius and Rosenblat, 2006) to risk-taking (Dreber et al., 2013), voting (Berggren et al., 2010, 2017, Hamermesh, 2006) or social networking (O'Connor and Gladstone, 2018). We add to this literature by showing how body size might affect individuals' attitudes toward today's policy-relevant issues. Also, we show an additional harmful effect of weight-based stigmatization (Rubino et al., 2020).

The paper develops as follows: Section two describes the data and the empirical strategy; Section three shows a descriptive analysis of the results; Section four investigates the causal mechanisms behind our descriptive results and discusses some possible related mechanisms. Section five briefly discusses the findings and concludes.

2 Data and Empirical Strategy

We use data from the 7th Round of the European Social Survey (ESS7) to investigate the relationship between being overweight or obese and attitudes toward immigrants in Europe. The ESS7 comprehends a sample of 40,185 individuals across 21 countries, aged 15 years and older and it has been widely used to study attitudes toward immigration in Europe (see e.g. Alesina et al., 2021, Colussi et al., 2021). Furthermore, this dataset is particularly suited to study attitudes toward immigration as it contains a specific module on immigration

and a survey experiment designed to test the relative contributions of economic and cultural threats to oppose immigration (ESS7, 2023).

Anthropometric Measures Building on psychological literature showing that overweight and obese individuals are often stereotyped (Goode, 2020, Puhl and Heuer, 2009, Zacher and von Hippel, 2022), we use the Body Mass Index (BMI) to investigate how stigmatization of natives relates to attitudes toward immigration. We derive BMI from participants' self-declared measures of weight and height. We then created a dummy variable to classify individuals as overweight or obese if their BMI is 25 or greater (*overweight-obese* $\in \{0, 1\}$).

Attitude toward immigrants In our main analysis, we focus on responses to three questions that explore attitudes towards immigration. The first variable of interest is built on the following statement: *"Is it generally good or bad for [country]'s economy that people come to live here from other countries?"*. Answers range from 0 (Bad for the economy) to 10 (Good for the economy). We label this variable $ImmGoodEcon$. The second variable builds on the statement *"Considering their contributions to work, taxes, and usage of health and welfare services, do immigrants contribute more than they take out, or take out more than they contribute?"*. Possible answers range from 0 (Take out more) to 10 (Contribute more). We label this variable $ImmContribute$. These two variables aim to investigate attitudes toward immigration concerning the perceived economic contribution of immigrants to a country's economy.

We use answers to the statement *"Does the presence of people from other countries enrich or undermine [country]'s cultural life?"* to measure the perceived cultural threat. This variable ranges from 0 (Cultural life undermined) to 10 (Cultural life enriched) and is labelled $ImmEnrichCulture$.

Last, we try to understand whether native individuals belonging to a stigmatized group are more willing to feel differentially treated by the government with respect to immigrants. To this aim, we use answers to the question *"How does the government treat recent immigrants compared to native-born citizens?"*. Answers to this question range from 1 (Much worse) to 4 (Much better) and the corresponding variable is labelled $GovTreatsImmBetter$.

To have a complete picture of attitudes toward immigrants we also use additional measures, namely: $i)$ the beliefs on whether immigrants improve one country's overall quality ($ImmMakeCountryBetter$); $ii)$ the views on how the government should judge refugees status applications ($GovGenJudgeRef$); $iii)$ the proportion of individuals born abroad in every 100 people ($Every100pHowManyBornOut$) and the relative misperception about immigrant group size ($Misperception$), built on the difference between perceived percentages and actual statistics[1]

[1]Related questions are:

Descriptive statistics Table 2.1 reports the descriptive statistics of the full sample in the first two columns as well as the distribution between overweight and obese individuals (columns 3 and 4). After the data cleaning process, the final sample consists of 18,216 individuals across 18 countries. To ensure the reliability of our analysis, we exclude individuals with a BMI below 18 or above 40. BMI values below 18 are generally considered indicative of being underweight, while BMI values above 40 are extremely rare and likely to be attributable to measurement errors or outliers. Moreover, we focus only on individuals who declare to have been born in the country where they currently live.

In terms of socio-demographic characteristics, on average, 49% of the sample consists of females, and the mean age is approximately 50. Additionally, 45% of our sample completed between 9 and 13 years of full-time education. Overweight and obese individuals are 51 percent of the sample.

- "Is [country] made a worse or a better place to live by people coming to live here from other countries?" scale from 0 indicating (a worse place to live) to 10 (a better place to live)
- "Some people come to this country and apply for refugee status on the grounds that they fear persecution in their own country. how much you agree or disagree that the government should be generous in judging people's applications for refugee status." scale from 1 (Disagree strongly) to 5 (Agree strongly).
- "Out of every 100 people living in [country], how many do you think were born outside [country]?"

We use 2014 Eurostat data for the percentage of foreigners in the overall population.

Table 2.1: Descriptive statistics

	Full sample		**Overweight-Obese**	
	Mean	SD	Mean	SD
Imm. Good for Econ.	5.17	(2.35)	5.03	(2.39)
Imm. Contribute to Welfare	4.55	(2.13)	4.46	(2.19)
Imm. Enrich Cultural life	5.90	(2.44)	5.70	(2.47)
Gov. Treats Imm. Better than Me	2.98	(1.00)	3.07	(1.00)
Discriminated	0.07	(0.25)	0.07	(0.25)
Imm. make country a better place	5.24	(2.21)	5.08	(2.25)
Gov. Generously Judges Ref.	3.23	(1.10)	3.18	(1.11)
Every 100 people how many born outside	19.96	(16.25)	19.70	(16.39)
Misperception	7.25	(15.41)	7.22	(15.55)
Overweight-obese	0.51	(0.50)		
BMI	25.58	(4.09)	28.75	(3.12)
Age	49.32	(17.84)	53.06	(16.17)
Female	0.49	(0.50)	0.42	(0.49)
Education (years):				
<=5	0.02	(0.15)	0.03	(0.16)
06-08	0.07	(0.25)	0.08	(0.27)
09-13	0.45	(0.50)	0.47	(0.50)
14-18	0.37	(0.48)	0.34	(0.47)
>19	0.09	(0.29)	0.08	(0.27)
Household's total net income:				
Low income	0.37	(0.48)	0.38	(0.49)
Med. income	0.33	(0.47)	0.33	(0.47)
High income	0.30	(0.46)	0.29	(0.45)
Ever unemp. > 3 months (0=yes, 1=no)	0.72	(0.45)	0.71	(0.45)
Belong to minority ethnic group (0=yes, 1=no)	0.97	(0.17)	0.97	(0.17)
Belonging to particular religion (0=yes, 1=no)	0.43	(0.49)	0.40	(0.49)
Subjective general health:				
Very good	0.27	(0.44)	0.19	(0.40)
Good	0.45	(0.50)	0.46	(0.50)
Fair	0.23	(0.42)	0.27	(0.45)
Bad	0.04	(0.21)	0.06	(0.24)
Very bad	0.01	(0.09)	0.01	(0.11)
Feeling about present income:				
Living comfortably	0.41	(0.49)	0.37	(0.48)
Coping	0.44	(0.50)	0.47	(0.50)
Difficult	0.11	(0.32)	0.12	(0.33)
Very difficult	0.03	(0.18)	0.04	(0.19)
Political position:				
Left	0.33	(0.47)	0.31	(0.46)
Right	0.39	(0.49)	0.40	(0.49)

$Notes$: Numbers of the full sample refer to 18,033 individuals. Overweight-obese category includes 9,119 subjects.

2.1 Empirical strategy

We use a linear regression model to examine the correlation between being overweight or obese and attitudes toward immigrants. The model is estimated by the following equation:

$$Attitudes_{ir} = \alpha + \beta OverObese_{ir} + \gamma \mathbf{X'}_{ir} + \delta_r + \varepsilon_{ir} \quad (1)$$

where, $Attitudes_{ir}$ is the outcome variable measuring attitudes toward immigrants for an individual i

residing in region r. The key variable of interest is a dummy variable that takes the value 1 if the individual is overweight or obese ($OverObese_{ir}$). To understand the additional effect of the confounding factors, we include a vector of control variables denoted as $\mathbf{X'}_{ir}$ which -in its simplest form- includes basic controls such as gender, age, and age squared, and regional fixed effects (δ_r). We also include a broader range of control variables that may capture the influence of labor market outcomes on our outcomes. These controls include household net income, unemployment spells, education level, subjective health status. In the last specification, we add variables to account for declaring to belong to a minority ethnic group, religious belonging, and subjective perceptions of current income as additional controls. We also include a set of dummies to control for parental background -proxied by parents' education.

In our descriptive analysis, we split the sample by gender and political position to rule out possible standard explanations of our results.[2]

3 Descriptive Analysis

In this section, we illustrate the relationship between belonging to a stigmatized group, proxied by body weight, and attitudes toward immigrants. We only explore the possible correlation between these two variables to test standard and straightforward explanations of this relationship.

3.1 Attitude toward immigrants

Table 3.1 shows our main results.[3] In the first column, we present the simplest model, which includes only the regional fixed effect. In the second column, we report the baseline model, which includes a set of fundamental controls, namely age, age squared, gender, and the regional fixed effect. The third and fourth columns of the Table showcase the baseline model with the inclusion of the additional individual characteristics presented in the previous section.

Our results show that belonging to a stigmatized group correlates with negative attitudes toward immigrants. Specifically, our baseline results suggest that being overweight or obese is negatively associated with beliefs that immigrants are good for the economy, that immigrants contribute to the welfare and that immigrants undermine natives' culture. We also find that overweight and obese are more likely to think that the governments treat immigrants better. All these associations are sizeable and are between 4 and 6 percent of the average in our

[2]Participants' political positions are categorized based on their responses to the question: "*In politics, people often discuss the concepts of 'left' and 'right.' Where would you position yourself on this scale, with 0 representing the left and 10 representing the right?*" Individuals who answer between 0 and 4 are classified as holding a "left" position, while those who answer between 6 and 10 are categorized as having a "right" position.

[3]Table A1, Table A2, Table A3 and Table A4 in Appendix A report the full set of estimates. Additionally, in Appendix B, we provide findings using the BMI variable instead of the overweight-obese dummy. Results are overall robust.

baseline model.

A straightforward interpretation of these correlations may be that overweight and obese develop negative attitudes toward immigrants as they are often discriminated against at work, have worse health conditions, and this may lead them to feel more vulnerable and to perceive immigrants as an economic threat (Spahlholz et al., 2016, **?**, **?**, **?**, **?**). However, when we control for labor market outcomes association between immigration and negative attitudes toward immigrants still holds. This is true also when we keep adding controls such as parental background or feelings about one own economic situation as we show in Appendix A. In our full model, the effects are still sizeable and correspond to an association of around 3 percent of the average. In terms of standard deviations, in the full model, the association between being overweight or obese and negative attitudes toward immigrants is around two-thirds of the association between gender and attitudes toward immigrants. While, the correlation between being overweight or obese and perceiving that the government treat immigrants better is nearly twice as strong as the corresponding association for gender.

Overall these results suggest that belonging to a stigmatized group is associated with perceiving immigrants as a burden for the fiscal system and the economy and with a perceived cultural threat by immigrants. We also find that overweight and obese feel that the government treats immigrants better, possibly suggesting that vulnerable groups may be afraid that government social benefits differentially help immigrants.

Table A5 in the Appendix also shows that being overweight and obese is associated with the belief that immigrants are detrimental to their own country, that governments should be strict in judging refugees' status, and with a slightly higher misperception about group size of immigrants.

Table 3.1: Main Results

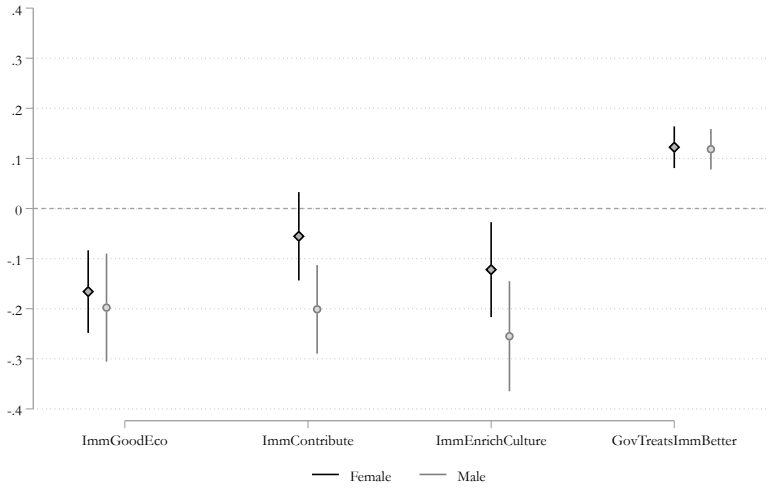
	(1)	(2)	(3)	(4)
Panel a: Immigrants Good for Economy				
Overweight-Obese	-0.252***	-0.316***	-0.170***	-0.155***
	(0.036)	(0.035)	(0.033)	(0.033)
Panel b: Immigrants Contribute to Welfare				
Overweight-Obese	-0.163***	-0.200***	-0.119***	-0.109***
	(0.031)	(0.031)	(0.030)	(0.030)
Panel c: Immigrants Enrich Cultural Life				
Overweight-Obese	-0.349***	-0.326***	-0.183***	-0.165***
	(0.036)	(0.036)	(0.035)	(0.034)
Panel d: Government Treats Immigrants Better Than Me				
Overweight-Obese	0.170***	0.156***	0.116***	0.110***
	(0.016)	(0.016)	(0.015)	(0.015)
Regional FE	Yes	Yes	Yes	Yes
Basic Controls	No	Yes	Yes	Yes
Labour Market Controls	No	No	Yes	Yes
Other Controls	No	No	No	Yes
Observations	18033	18033	18033	18033

Notes : Estimates include region fixed effects. Basic controls are gender, age, and age squared. Labor market controls include education, income, health status, and being unemployed for more than 3 months. Other controls include being part of a minority ethnic group, belonging to a religion or denomination, and feelings about current income. Standard errors (in parentheses) are clustered at regional level.
*** p<0.01, ** p<0.05, * p<0.1

3.2 Heterogeneity

Gender Differences Drawing on the existing literature suggesting that body size may have differential effects on societal outcomes for males and females (see e.g., Campos-Vazquez and Gonzalez, 2020), we conducted a more granular analysis to investigate the potential influence of gender differences on our findings. By running Equation 1 separately for females and males, we aim to understand whether a particular gender is driving our associations. Findings, presented in Figure 3.1, show that there are little differences between males and females, with males showing more negative attitudes. However, we cannot conclude that a particular gender drives the main association.

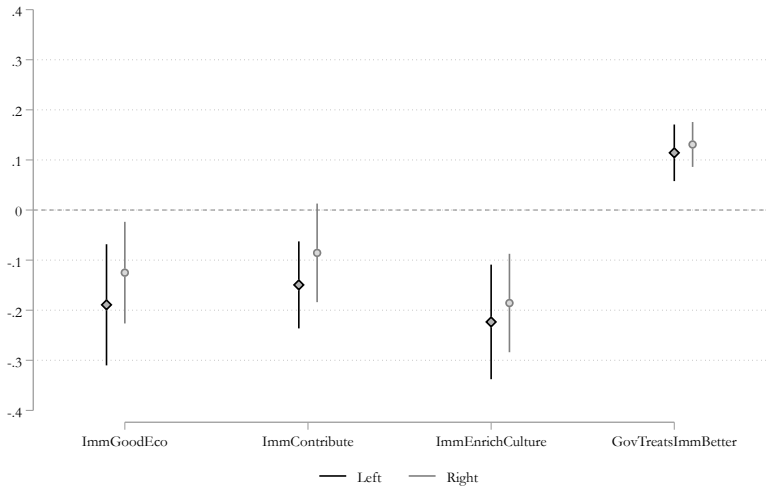
Figure 3.1: Main Results Gender Differences



Notes: The estimates for female and male subgroups, include basic and labor market controls, as well as region fixed effects. Standard errors (in parentheses) are clustered at regional level.

Political differences Another possible driver of our results could be political ideology. The literature shows that body size and attractiveness influence political leaning (see e.g. Arunachalam and Watson, 2018, Fazio, 2022). As a consequence, we might be capturing a spurious correlation driven by political ideology. We divide the sample between left and right-wing-leaning individuals to test for this possibility. The association between being overweight or obese and negative attitudes toward immigrants' is very similar when comparing both left-wing-leaning and right-wing-leaning individuals (Figure 3.2).

Figure 3.2: Main Results Political Differences



Notes: The estimates for left-wing and right-wing subgroups, include basic and labor market controls, as well as region fixed effects. Standard errors (in parentheses) are clustered at regional level.

4 Mechanisms

In the previous Section, we present evidence of a robust correlation between body size and attitudes toward immigrants. We also show that such associations are not driven by a particular gender or self-selection into political positioning. We hypothesize that the association between being overweight or obese and negative attitudes toward immigrants may be due to stigmatization experienced by these individuals (Puhl and King, 2013, Puhl et al., 2021, Robinson et al., 2017). Such stigmatization may be internalized and may fuel out-group conflict (Festinger, 1954, Hogg, 2016, Schneider, 2008, Tajfel and Turner, 2004). In this Section, we provide causal evidence of these mechanisms by exploiting both a natural and a survey experiment.

4.1 Evidence from a survey experiment

The 7th round of the ESS includes a survey experiment designed to disentangle whether individuals oppose immigration because they feel threatened by culture or economic skills. Hence, the survey experiment involved a standard question asking whether individuals are more or less willing to allow immigrants to come and live in the respondents' country varying the cultural or economic dimension of the immigrants.

The experiment is a 2x2 design where the possible categories measuring the economic dimension are either 'professionals' or 'unskilled worker', while the categories measuring culture are either the 'poor European country providing the highest number of immigrants' or the 'poor non-European country providing the highest number of immigrants'[4]. Table 4.1 summarizes the possible randomization. Survey respondents are assigned to one of the four groups shown in the Table.

Table 4.1: Description of migrant groups based on economic status and ethnic origin.

	Less Different Ethnic Origin	**More Different Ethnic Origin**
Higher economic status	Professional migrants from poor European country providing largest number of migrants	Professional migrants from poor country outside Europe providing largest number of migrants
Lower economic status	Unskilled workers from poor European country providing largest number of migrants	Unskilled workers from poor country outside Europe providing largest number of migrants

By randomly varying the economic skill and the cultural distance of the (possible) incoming immigrants, we have the opportunity to causally estimate whether overweight or obese individuals give more importance to culture or skills. In detail, we investigate the trade-off between the cultural and the economic dimensions by comparing the answers of the group that is exposed to the incoming 'unskilled European workers' with the group exposed to the incoming 'non-European professionals'.

[4] Table A7 shows, for each country in the ESS, which are the corresponding European and non-European countries providing the largest number of immigrants.

The balance test in Figure A1 shows that the randomization worked, as the two groups are very well balanced. Table 4.2 shows that while on average individuals prefer a 'professional non-European' over an 'unskilled European worker', overweight and obese individuals tend to give more importance to the cultural dimension[5]. In Table A6 we rule out that overweight and obese individuals oppose immigrants because of the economic threat by showing that they do not prefer unskilled over professionals when the cultural dimension is kept constant.

Overall, the results from the survey experiment suggest that natives belonging to a stigmatized and vulnerable group may be more willing to identify with their culture and to value cultural distance more when exposed to immigration. This is consistent with the literature suggesting that individuals may identify more with their nation rather than with their social class when exposed to immigration (Shayo, 2020).

Table 4.2: Allow unskilled labourers from Europe

	(1) $AllowManyImm$	(2) $AllowManyImm$	(3) $AllowManyImm$
Unskilled Europe	-0.492***	-0.494***	-0.499***
	(0.046)	(0.046)	(0.046)
Unskilled Europe × Overweight-Obese	0.056**	0.060**	0.076***
	(0.024)	(0.024)	(0.026)
Country FE	Yes	Yes	Yes
Basic Controls	No	Yes	Yes
Labour Market Controls	No	No	Yes
Observations	8842	8842	8842

Notes: Estimates include country fixed effects. Basic controls are gender, age, and age squared. The reference is "Professionals Non-European". Standard errors (in parentheses) are clustered at country level. *** p<0.01, ** p<0.05, * p<0.1

4.2 Evidence from a natural experiment

As explained above, we hypothesize that the driver of negative attitudes toward immigrants may be stigmatization. If natives belong to a group that is often stigmatized and discriminated against, this may increase outgroup conflict.

We test this hypothesis by taking the advantage of a natural experiment. In October 2014, during the fielding period of the survey, Maggie de Block became the Ministry of Health in Belgium. She soon received harsh comments claiming that she was not a credible Ministry of Health because she was obese. The episode was so impactful that caught the attention of the international press and even the Ministry herself had to comment on the situation declaring: *'I know I'm not a model but you have to see what's inside, not the packaging"*.

We exploit this episode to run a study event. By comparing individuals who were interviewed in September and individuals who were interviewed afterwards in Belgium, we estimate the effect of stigmatization of

[5]Differently form our descriptive analysis, this model includes country fixed effects, and the idiosyncratic error term is clustered at the country level.

overweight and obese on attitudes toward immigrants.

First, we show in Figure A2 that although the number of interviewed individuals in Belgium is different between September and October, we find no systematic differences in the observable characteristics of the two groups.

Table 4.3 (Panel a) shows the main results of the study event. In the first column, we try to understand the effect of the episode involving the Belgian Ministry of Health on perceived discrimination. We take advantage of a question in the survey that asks: *"Are you a member of a group that is discriminated against in this country?"* ($Discriminated$). We recode answers to this question into a dummy variable taking on a value equal to one if the answer is yes and zero otherwise. We find a very pronounced effect on perceived discrimination: the Maggie de Block episode almost doubled perceived discrimination among overweight and obese individuals and it also persisted in November and December.

In columns (2)-(5) the Table (Panel a) displays the effect of an increase in stigmatization against overweight and obese and attitudes toward immigrants. The results show that the Maggie de Block episode fueled negative attitudes toward immigrants. In detail, we find that stigmatization applied to natives increases negative attitudes toward immigrants that are perceived as more culturally distant and a burden for the economy and the fiscal system. We also show in Table A8 an increase in misperceptions. All the main effects are sizeable and range between 12 and 22% of the average.

Table 4.3: Discrimination and Attitudes toward Immigrants

	(1)	(2)	(3)	(4)	(5)
	$Discriminated$	$ImmGoodEcon$	$ImmContribute$	$ImmEnrich Culture$	$GovTreats ImmBetter$
Panel a: Belgium					
Overweight-Obese × October	0.072**	-0.776**	-1.020***	-0.722*	0.347**
	(0.034)	(0.391)	(0.368)	(0.389)	(0.170)
Overweight-Obese × November-December	0.083**	-0.641	-0.765**	-0.283	0.284*
	(0.034)	(0.391)	(0.367)	(0.389)	(0.170)
Basic Controls	Yes	Yes	Yes	Yes	Yes
Labour Market Controls	Yes	Yes	Yes	Yes	Yes
Observations	1109	1109	1109	1109	1109

Notes: Basic controls are gender, age, and age squared. Labor market controls include education, income, health status, and being unemployed for more than 3 months. *** p<0.01, ** p<0.05, * p<0.1

We run several placebo tests to ensure that our estimations are not the fruit of a coincidence. We present the same estimation for Germany, Netherlands, and Great Britain -as the timing of the fielding of the survey overlaps with Belgium- in Table 4.4. We also show a falsification test in Table 4.5, where we use as dependent variables unrelated outcomes, namely being against homosexuality[6], European integretation, and satisfaction with the country's economy.

[6]This is considered a good placebo as also in this case we deal with attitudes toward a minority group. However, while we have selected a sample of natives to understand natives attitudes toward immigrants, we have no priors, and we have no information, on the distribution of homosexual individuals in our sample.

Table 4.4: Discrimination and Attitudes toward Immigrants

	(1) $Discriminated$	(2) $ImmGoodEcon$	(3) $ImmContribute$	(4) $ImmEnrich Culture$	(5) $GovTreats ImmBetter$
Panel a: Placebo Germany					
Overweight-Obese × October	-0.016	0.051	-0.236	-0.051	0.015
	(0.023)	(0.315)	(0.286)	(0.331)	(0.150)
Overweight-Obese × November-December	-0.015	0.164	-0.214	-0.200	0.156
	(0.019)	(0.262)	(0.238)	(0.275)	(0.125)
Panel b: Placebo Netherlands					
Overweight-Obese × October	0.015	-0.187	-0.191	-0.036	0.202
	(0.035)	(0.270)	(0.257)	(0.277)	(0.124)
Overweight-Obese × November-December	0.025	0.194	-0.109	0.065	0.117
	(0.036)	(0.279)	(0.266)	(0.286)	(0.129)
Panel c: Great Britain					
Overweight-Obese × October	0.024	0.286	-0.322	-0.456	-0.146
	(0.053)	(0.380)	(0.367)	(0.415)	(0.162)
Overweight-Obese × November-December	0.116	-0.629	-0.982*	-0.850	-0.230
	(0.075)	(0.530)	(0.513)	(0.579)	(0.227)
Basic Controls	Yes	Yes	Yes	Yes	Yes
Labour Market Controls	Yes	Yes	Yes	Yes	Yes

Notes: Estimates are based on 1,521 for Germany, 1,150 for the Netherlands, and 1,032 for Great Britain. Basic controls are gender, age, and age squared. Labor market controls include education, income, health status, and being unemployed for more than 3 months. *** p<0.01, ** p<0.05, * p<0.1

Table 4.5: Discrimination and Attitudes toward Immigrants (Placebo preferences)

	(1) $Against\ Gays\ and\ lesbians$	(2) $EUintegration$	(3) $Sat.Country's Economy$
Overweight-Obese × October	0.031	-0.440	-0.222
	(0.154)	(0.449)	(0.351)
Overweight-Obese × November-December	0.130	-0.142	0.091
	(0.154)	(0.448)	(0.351)
Basic Controls	Yes	Yes	Yes
Labour Market Controls	Yes	Yes	Yes
Observations	1118	1115	1117

Notes: Estimates are specific to Belgium and include basic and labour market controls. *** p<0.01, ** p<0.05, * p<0.1

5 Discussion and Conclusion

Research in economics and social science shows that people often develop negative views against immigrants (Alesina and Tabellini, 2024).

In this paper, we look at the intricate relationship between social identity and attitudes toward immigrants. Specifically, we ask: what are the attitudes toward immigrants of natives who may belong to social groups that are stigmatized and that, consequently, have low social status?

To answer these questions we build on research showing that overweight and obese individuals are often victims of stereotypes and are discriminated against in the labor market (Puhl and King, 2013, Puhl et al., 2021, Robinson et al., 2017, **?**). We use data from the ESS to first show a persistent relationship between being overweight and obese and negative attitudes toward immigrants. This relationship resists the inclusion of a broad range of control, including household income, unemployment spell, and educational background, thus

ruling out that labor market outcomes drive this relationship.

We read our descriptive evidence in light of the literature on social identity theory. Overweight and obese individuals are often stigmatized, and if this stigma is internalized, they feel to belong to a lower-ranked group in society (Hunger et al., 2015, Ramos Salas et al., 2019, Sutin et al., 2015, **?**). This mechanism corresponds to a decrease in social status that may trigger out-group conflict, especially toward other low-ranked groups such as immigrants (Festinger, 1954, Hogg, 2016, Schneider, 2008, Tajfel and Turner, 2004).

We test these hypotheses through a survey and a natural experiment. With a survey experiment embedded in the ESS, we show that overweight and obese are willing to value culture more than other factors such as skills when facing immigrants.

Exploiting the targeting that Maggie de Block received when she was appointed to the Ministry of Health, we also show that negative attitudes toward immigrants are triggered when overweight and obese individuals are stigmatized. Indeed, the Belgian Ministry of Health was targeted due to her weight.

Overall, our results suggest that a negative shock in social status may increase negative attitudes toward immigrants. We add a tile to the study investigating social identity and attitudes toward immigrants by showing an additional driver of attitudes toward immigrants that highlights the social harmfulness of stigmatization.

Future research may investigate how these mechanisms interact with policy preferences. Economics research suggests that immigration will push voters toward right-wing governments and less redistribution and that those who hold more negative views of immigrants are driving these results Alesina and Tabellini (2024). Will these mechanisms be exacerbated if negative attitudes toward immigrants are driven by out-group conflicts? Or will stigmatized individuals demand higher redistribution in order to increase their social status as the standard political economy model would predict (Shayo, 2009)?

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Appendix A

Main Results

Table A1: Main Results - Immigrants Good for Economy

	(1)	(2)	(3)	(4)	(5)	(6)
Overweight-Obese	-0.252***	-0.316***	-0.170***	-0.155***	-0.147***	-0.134***
	(0.036)	(0.035)	(0.033)	(0.033)	(0.033)	(0.033)
High School or more (ref: <=5):						
06-08		.	0.034	-0.003	0.075	0.051
			(0.123)	(0.129)	(0.123)	(0.127)
09-13			0.349***	0.283**	0.384***	0.341***
			(0.116)	(0.125)	(0.114)	(0.119)
14-18			1.140***	1.044***	1.070***	1.005***
			(0.120)	(0.131)	(0.120)	(0.124)
>19			1.606***	1.506***	1.439***	1.373***
			(0.144)	(0.155)	(0.141)	(0.143)
Household's total net income (ref: med.income):						
Low income			-0.308***	-0.168***	-0.289***	-0.156***
			(0.043)	(0.046)	(0.044)	(0.047)
High income			0.237***	0.166***	0.187***	0.122**
			(0.048)	(0.049)	(0.045)	(0.048)
Ever. unemp. >3 months (no)			0.114**	0.063	0.114**	0.063
			(0.044)	(0.046)	(0.045)	(0.046)
Subjective general health (ref: very good):						
Good			-0.198***	-0.177***	-0.180***	-0.162***
			(0.043)	(0.043)	(0.043)	(0.042)
Fair			-0.472***	-0.400***	-0.450***	-0.382***
			(0.061)	(0.061)	(0.060)	(0.060)
Bad			-0.798***	-0.657***	-0.787***	-0.651***
			(0.093)	(0.088)	(0.092)	(0.087)
Very bad			-1.093***	-0.899***	-1.071***	-0.883***
			(0.217)	(0.214)	(0.217)	(0.214)
Belong to min. ethnic group (no)				0.262		0.168
				(0.265)		(0.245)
Belong to part religion (no)				0.054		0.040
				(0.040)		(0.040)
Feeling about present income (ref: Living comfortably):						
Coping				-0.247***		-0.234***
				(0.042)		(0.041)
Difficult				-0.582***		-0.568***
				(0.065)		(0.066)
Very difficult				-0.990***		-0.962***
				(0.159)		(0.158)
Basic Controls	No	Yes	Yes	Yes	Yes	Yes
Parental Background	No	No	No	No	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	18033	18033	18033	18033	18033	18033

Notes : Estimates include region fixed effect. Basic controls are gender, age, and age squared. Standard errors (in parentheses) are clustered at regional level. *** p<0.01, ** p<0.05, * p<0.1

Table A2: Main Results - Immigrants Contribute to Welfare

	(1)	(2)	(3)	(4)	(5)	(6)
Overweight-Obese	-0.163***	-0.200***	-0.119***	-0.109***	-0.103***	-0.094***
	(0.031)	(0.031)	(0.030)	(0.030)	(0.031)	(0.031)
High School or more (ref: <=5):						
06-08			0.116	0.091	0.133	0.116
			(0.146)	(0.146)	(0.143)	(0.143)
09-13			0.102	0.057	0.130	0.098
			(0.134)	(0.135)	(0.127)	(0.128)
14-18			0.556***	0.489***	0.514***	0.465***
			(0.130)	(0.132)	(0.127)	(0.127)
>19			0.888***	0.817***	0.772***	0.722***
			(0.144)	(0.146)	(0.139)	(0.140)
Household's total net income (ref: med.income):						
Low income			-0.145***	-0.042	-0.135***	-0.036
			(0.038)	(0.042)	(0.038)	(0.042)
High income			0.062	0.015	0.023	-0.020
			(0.045)	(0.045)	(0.044)	(0.045)
Ever. unemp. >3 months (no)			0.099**	0.062	0.100**	0.063
			(0.040)	(0.039)	(0.040)	(0.040)
Subjective general health (ref: very good):						
Good			-0.100**	-0.086**	-0.085**	-0.072*
			(0.043)	(0.042)	(0.043)	(0.043)
Fair			-0.235***	-0.183***	-0.218***	-0.169***
			(0.055)	(0.054)	(0.056)	(0.054)
Bad			-0.574***	-0.467***	-0.565***	-0.461***
			(0.084)	(0.080)	(0.083)	(0.079)
Very bad			-0.763***	-0.610***	-0.750***	-0.600***
			(0.214)	(0.204)	(0.208)	(0.199)
Belong to min. ethnic group (no)				-0.010		-0.069
				(0.194)		(0.173)
Belong to part religion (no)				0.099**		0.093**
				(0.038)		(0.038)
Feeling about present income (ref: Living comfortably):						
Coping				-0.163***		-0.153***
				(0.039)		(0.039)
Difficult				-0.425***		-0.420***
				(0.066)		(0.066)
Very difficult				-0.797***		-0.777***
				(0.167)		(0.166)
Basic Controls	No	Yes	Yes	Yes	Yes	Yes
Parental Background	No	No	No	No	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	18033	18033	18033	18033	18033	18033

Notes : Estimate include region fixed effects. Basic controls are gender, age, and age squared. Standard errors (in parentheses) are clustered at regional level. *** p<0.01, ** p<0.05, * p<0.1

Table A3: Main Results - Immigrants Enrich Cultural life

	(1)	(2)	(3)	(4)	(5)	(6)
Overweight-Obese	-0.349***	-0.326***	-0.183***	-0.165***	-0.160***	-0.145***
	(0.036)	(0.036)	(0.035)	(0.034)	(0.034)	(0.033)
High School or more (ref: <=5):						
06-08			0.057	0.017	0.116	0.088
			(0.143)	(0.145)	(0.141)	(0.142)
09-13			0.561***	0.494***	0.612***	0.568***
			(0.131)	(0.139)	(0.129)	(0.133)
14-18			1.321***	1.228***	1.262***	1.200***
			(0.139)	(0.149)	(0.141)	(0.145)
>19			1.881***	1.781***	1.719***	1.654***
			(0.168)	(0.177)	(0.173)	(0.175)
Household's total net income (ref: med.income):						
Low income			-0.234***	-0.113**	-0.213***	-0.099**
			(0.051)	(0.048)	(0.049)	(0.049)
High income			0.186***	0.131***	0.134***	0.085*
			(0.045)	(0.044)	(0.043)	(0.043)
Ever. unemp. >3 months (no)			-0.045	-0.081*	-0.047	-0.083*
			(0.046)	(0.045)	(0.046)	(0.045)
Subjective general health (ref: very good):						
Good			-0.228***	-0.211***	-0.215***	-0.199***
			(0.047)	(0.046)	(0.046)	(0.045)
Fair			-0.450***	-0.390***	-0.432***	-0.377***
			(0.060)	(0.060)	(0.060)	(0.060)
Bad			-0.767***	-0.646***	-0.758***	-0.642***
			(0.097)	(0.096)	(0.096)	(0.096)
Very bad			-0.986***	-0.826***	-0.970***	-0.814***
			(0.214)	(0.210)	(0.213)	(0.209)
Belong to min. ethnic group (no)				0.251		0.152
				(0.437)		(0.402)
Belong to part religion (no)				0.239***		0.225***
				(0.040)		(0.040)
Feeling about present income (ref: Living comfortably):						
Coping				-0.204***		-0.188***
				(0.035)		(0.035)
Difficult				-0.477***		-0.464***
				(0.071)		(0.072)
Very difficult				-0.919***		-0.896***
				(0.117)		(0.117)
Basic Controls	No	Yes	Yes	Yes	Yes	Yes
Parental Background	No	No	No	No	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	18033	18033	18033	18033	18033	18033

Notes : Estimates include region fixed effects. Basic controls are gender, age, and age squared. Standard errors (in parentheses) are clustered at regional level. *** p<0.01, ** p<0.05, * p<0.1

Table A4: Main Results - Government Treats Immigrants Better Than Me

	(1)	(2)	(3)	(4)	(5)	(6)
Overweight-Obese	0.170***	0.156***	0.116***	0.110***	0.106***	0.101***
	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.015)
High School or more (ref: <=5):						
06-08			0.162***	0.185***	0.158***	0.175***
			(0.052)	(0.053)	(0.053)	(0.053)
09-13			0.065	0.101*	0.073	0.096
			(0.057)	(0.060)	(0.059)	(0.061)
14-18			-0.193***	-0.145**	-0.141**	-0.110*
			(0.057)	(0.062)	(0.062)	(0.065)
>19			-0.350***	-0.301***	-0.255***	-0.225***
			(0.065)	(0.070)	(0.073)	(0.075)
Household's total net income (ref: med.income):						
Low income			0.108***	0.052***	0.097***	0.045**
			(0.021)	(0.019)	(0.019)	(0.019)
High income			-0.064***	-0.041**	-0.043**	-0.023
			(0.020)	(0.020)	(0.019)	(0.019)
Ever. unemp. >3 months (no)			-0.016	0.003	-0.015	0.004
			(0.021)	(0.019)	(0.020)	(0.018)
Subjective general health (ref: very good):						
Good			0.037*	0.031	0.030	0.025
			(0.020)	(0.019)	(0.020)	(0.019)
Fair			0.064***	0.038	0.056**	0.032
			(0.024)	(0.024)	(0.024)	(0.023)
Bad			0.264***	0.208***	0.258***	0.204***
			(0.041)	(0.040)	(0.041)	(0.040)
Very bad			0.262***	0.186**	0.253***	0.180*
			(0.091)	(0.093)	(0.091)	(0.093)
Belong to min. ethnic group (no)				-0.236		-0.185
				(0.222)		(0.195)
Belong to part religion (no)				-0.036**		-0.031*
				(0.017)		(0.017)
Feeling about present income (ref: Living comfortably):						
Coping				0.074***		0.066***
				(0.017)		(0.017)
Difficult				0.201***		0.194***
				(0.028)		(0.028)
Very difficult				0.428***		0.413***
				(0.050)		(0.050)
Basic Controls	No	Yes	Yes	Yes	Yes	Yes
Parental Background	No	No	No	No	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	18033	18033	18033	18033	18033	18033

$Notes$: Estimates include region fixed effects. Basic controls are gender, age, and age squared. Standard errors (in parentheses) are clustered at regional level. *** p<0.01, ** p<0.05, * p<0.1

Robustness check

Table A5: Main Results - Other outcomes

	(1) $ImmMakeCountry BetterPlace$	(2) $GovGenerously JudgesRef$	(3) $Every100people HowManyBornOutside$	(4) $Misperception$
Overweight-Obese	-0.129***	-0.061***	0.635**	0.758***
	(0.032)	(0.017)	(0.264)	(0.247)
Regional FE	Yes	Yes	Yes	Yes
Basic Controls	Yes	Yes	Yes	Yes
Labour Market Controls	Yes	Yes	Yes	Yes
Observations	17926	18033	18033	17366

Notes: Estimates include region fixed effects, as well as basic and labour market controls. Standalard errors (in parentheses) are clustered at region level. *** p<0.01, ** p<0.05, * p<0.1

Table A6: Allow unskilled labourers from Europe

	(1) $AllowManyImm$	(2) $AllowManyImm$	(3) $AllowManyImm$	(4) $AllowManyImm$
Panel a: (ref: "Unskilled Non-European")				
Professionals Non-European	0.638***			
	(0.056)			
Professionals Non-European × Overweight-Obese	-0.018			
	(0.037)			
Panel b: (ref: "Unskilled Europe")				
Professionals Europe		0.582***		
		(0.048)		
Professionals Europe × Overweight-Obese		0.001		
		(0.042)		
Panel c: (ref: "Professionals Non-European")				
Professionals Europe			0.082**	
			(0.029)	
Professionals Europe × Overweight-Obese			0.079**	
			(0.037)	
Panel d: (ref: "Unskilled Non-European")				
Unskilled Europe				0.142**
				(0.051)
Unskilled Europe × Overweight-Obese				0.058
				(0.038)
Country FE	Yes	Yes	Yes	Yes
Basic Controls	Yes	Yes	Yes	Yes
Labour Market Controls	Yes	Yes	Yes	Yes
Observations	8883	8993	9001	8875

Notes: Estimates include country fixed effects, as well as basic and labour market controls. Standard errors (in parentheses) are clustered at country level. *** p<0.01, ** p<0.05, * p<0.1

Table A7: Group of Immigrants by Country

ESS Country	Poor European country providing the largest number of migrants	Poor country outside Europe providing the largest number of migrants
Austria	Serbia	Turkey
Belgium	Poland	Turkey
Czech Republic	Ukraine	Vietnam
Denmark	Poland	Turkey
Estonia	Belarus	Vietnam
Finland	Estonia	Somalia
France	Portugal	Algeria
Germany	Poland	Turkey
Hungary	Romania	China
Ireland	Poland	Nigeria
Israel	Ukraine	Ethiopia
Latvia	Belarus	Vietnam
Lithuania	Belarus	Turkey
Netherlands	Poland	Turkey
Norway	Poland	Somalia
Poland	Belarus	Vietnam
Portugal	Ukraine	Brazil
Slovenia	Bosnia-Herzegovina	China
Spain	Romania	Morocco
Sweden	Poland	Somalia
Switzerland	Portugal	Turkey
UK	Poland	India

Notes: The Table shows the nation of the incoming immigrants depending on the cultural dimension.

Table A8: Stigmatization and Attitudes toward Immigrants

	(1) $ImmMakeCountry BetterPlace$	(2) $GovGenerously JudgesRef$	(3) $Every100people HowManyBornOutside$	$Misperception$
Overweight-Obese × October	-0.738**	-0.230	3.095	2.979
	(0.373)	(0.205)	(2.980)	(1.873)
Overweight-Obese × November-December	-0.609	-0.220	-0.372	-0.296
	(0.372)	(0.205)	(2.978)	(1.773)
Basic Controls	Yes	Yes	Yes	Yes
Labour Market Controls	Yes	Yes	Yes	Yes
Observations	1117	1119	1119	1119

Notes: Estimates are specific to Belgium and include basic and labour market controls. *** p<0.01, ** p<0.05, * p<0.1

Balanced test

Figure A1: Balanced Test Survey Experiment

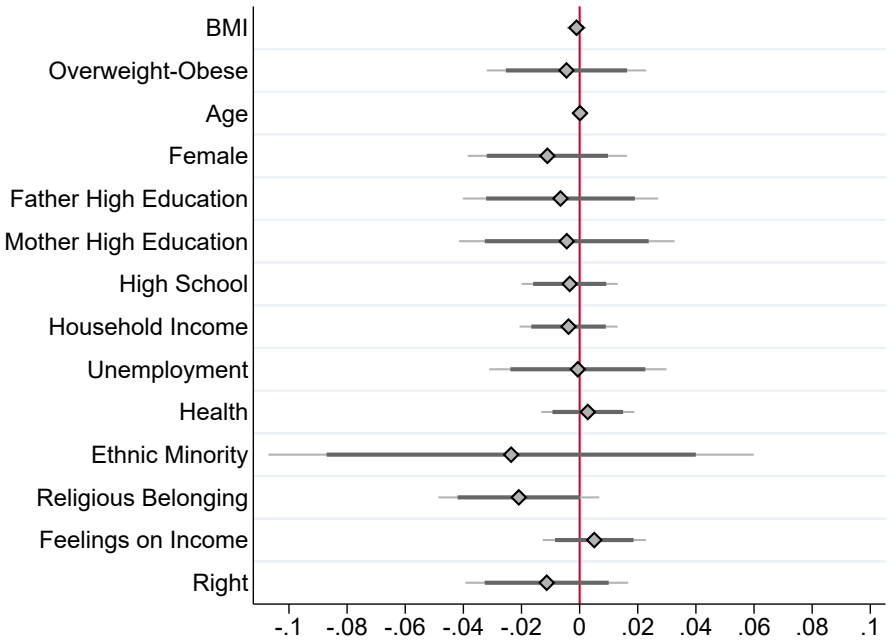


Figure A2: Balanced Test Natural Experiment (Oct.)

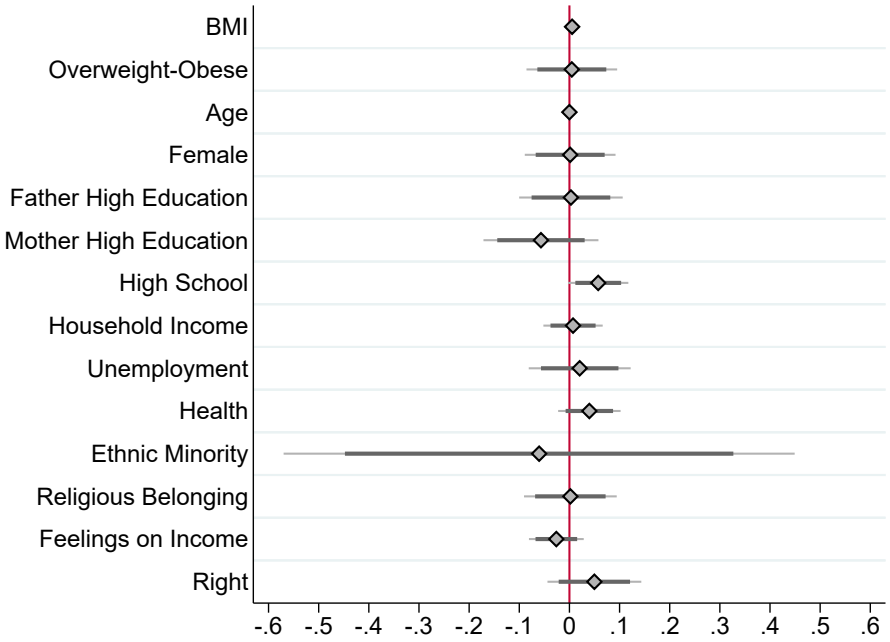
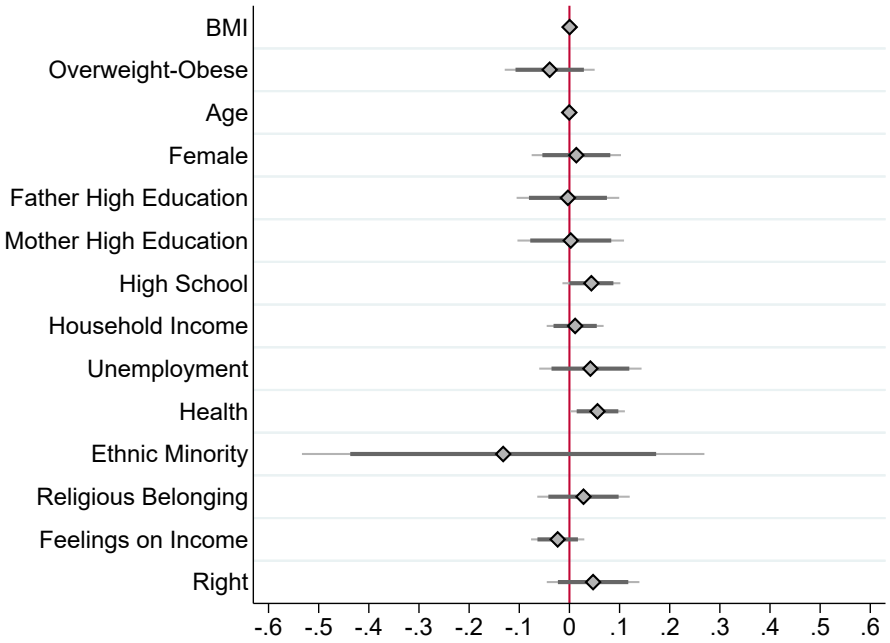


Figure A3: Balanced Test Natural Experiment (Nov.-Dec.)



Appendix B Online Appendix - BMI

Table C1: Main Results

	(1)	(2)	(3)	(4)	(5)	(6)
Panel a: Immigrants Good for Economy						
BMI	-0.040***	-0.049***	-0.025***	-0.024***	-0.022***	-0.020***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Panel b: Immigrants Contribute to Welfare						
BMI	-0.025***	-0.030***	-0.017***	-0.015***	-0.015***	-0.013***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Panel c: Immigrants Enrich Cultural Life						
BMI	-0.049***	-0.047***	-0.024***	-0.021***	-0.021***	-0.018***
	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Panel d: Government Treats Immigrants Better Than Me						
BMI	0.022***	0.021***	0.014***	0.013***	0.013***	0.012***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Regional FE	Yes	Yes	Yes	Yes	Yes	Yes
Basic Controls	No	Yes	Yes	Yes	Yes	Yes
Labour Market Controls	No	No	Yes	Yes	Yes	Yes
Other Controls	No	No	No	Yes	No	Yes
Parental Background	No	No	No	No	Yes	Yes
Observation	18033	18033	18033	18033	18033	18033

$Notes$: Standard errors (in parentheses) are clustered at regional level. *** p<0.01, ** p<0.05, * p<0.1

Table C2: Allow unskilled labourers from Europe

	(1)	(2)	(3)
	$AllowManyImm$	$AllowManyImm$	$AllowManyImm$
Unskilled Europe	-0.500***	-0.508***	-0.557***
	(0.088)	(0.088)	(0.088)
Unskilled Europe × BMI	0.001	0.002	0.004
	(0.004)	(0.004)	(0.004)
Country FE	Yes	Yes	Yes
Basic Controls	No	Yes	Yes
Labour Market Controls	No	No	Yes
Observations	8842	8842	8842

Notes: Estimates include country fixed effects. Basic controls are gender, age, and age squared. The reference is "Professionals Non-European". Standard errors (in parentheses) are clustered at country level. *** p<0.01, ** p<0.05, * p<0.1

Table C3: Allow unskilled labourers from Europe

	(1) $AllowManyImm$	(2) $AllowManyImm$	(3) $AllowManyImm$	(4) $AllowManyImm$
Panel a: (ref: "Unskilled Non-European")				
Professionals Non-European	0.688***			
	(0.129)			
Professionals Non-European × BMI	-0.002			
	(0.005)			
Panel b: (ref: "Unskilled Europe")				
Professionals Europe		0.529***		
		(0.090)		
Professionals Europe × BMI		0.002		
		(0.004)		
Panel c: (ref: "Professionals Non-European")				
Professionals Europe			-0.023	
			(0.101)	
Professionals Europe × BMI			0.006	
			(0.004)	
Panel d: (ref: "Unskilled Non-European")				
Unskilled Europe				0.117
				(0.122)
Unskilled Europe × BMI				0.002
				(0.004)
Country FE	Yes	Yes	Yes	Yes
Basic Controls	Yes	Yes	Yes	Yes
Labour Market Controls	Yes	Yes	Yes	Yes
Observations	8883	8993	9001	8875

Notes: Estimates include country fixed effects, as well as basic and labour market controls. Standard errors (in parentheses) are clustered at country level. *** p<0.01, ** p<0.05, * p<0.1

Table C4: Discrimination and Attitudes toward Immigrants

	(1) $Discriminated$	(2) $ImmGoodEcon$	(3) $ImmContribute$	(4) $ImmEnrich Culture$	(5) $GovTreats ImmBetter$
Belgium					
BMI × October	0.009**	-0.039	-0.123***	-0.094**	0.026
	(0.004)	(0.048)	(0.045)	(0.047)	(0.021)
BMI × November-December	0.009**	-0.022	-0.090**	-0.040	0.012
	(0.004)	(0.047)	(0.044)	(0.047)	(0.020)
Basic Controls	Yes	Yes	Yes	Yes	Yes
Labour Market Controls	Yes	Yes	Yes	Yes	Yes
Observations	1109	1109	1109	1109	1109

Notes: *** p<0.01, ** p<0.05, * p<0.1