News, Emotions, and Policy Views on Immigration

Pre-Analysis Plan *

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1 Introduction

The purpose of this paper is to provide evidence on the role of of emotional factors in shaping policy views. In particular, we examine the effect of sensational news and of the emotions they trigger on policy views on immigration. The first research question we investigate is whether news-induced emotions affect policy views on immigration. In our second research question, we explore whether emotions influence the way people respond to factual information (statistics). More specifically, we explore whether emotions influence (i) the learning of new facts, i.e., belief updating and (ii) the way in which belief updating translates into a change in policy views.

We address these questions by conducting a survey experiment in Italy. In a between-subjects design, we randomly expose participants to sensational news stories about crimes perpetrated by immigrants and/or to statistical information about immigration and crime.

Our experimental design has a 4x2 structure where we have 4 different news stories and 2 information conditions. All our conditions are presented in Table 1. The three main outcomes we will examine are: (i) respondents' beliefs about immigration (about the statistical facts), which we elicit both before and after the treatments (ii) emotions by asking participants how strongly they felt positive (joy and surprise) and negative (fear, anger, contempt, and disgust) emotions while reading the news article and (iii) attitudes towards immigrants and immigration policy which we will measure at the end of the questionnaire.

Table 1: Control and Treatment conditions

		News Article			
		Neutral	High emotion		Low emotion
		Food-culture	Rape news	Murder news	Theft news
Statistics about immigration	No	Control	Rape news	Murder news	Theft news
	Yes	Info	Rape news & Info	Murder news & Info	Theft news & Info

2 Experimental design

In this section, we describe the basic structure of the experiment (2.1) and our treatments (2.2).

2.1 Structure of the survey experiment

The design of the survey is composed by several blocks that follow the order we summarize in Figure 1. We describe the blocks in details below.

Disclaimer, age and gender: Participants are advised that some of the contents of the survey may hurt their sensibility and are asked whether they wish to continue further. They are also explicitly told they can leave the survey at any time. Just after, they are asked to report their age and gender.

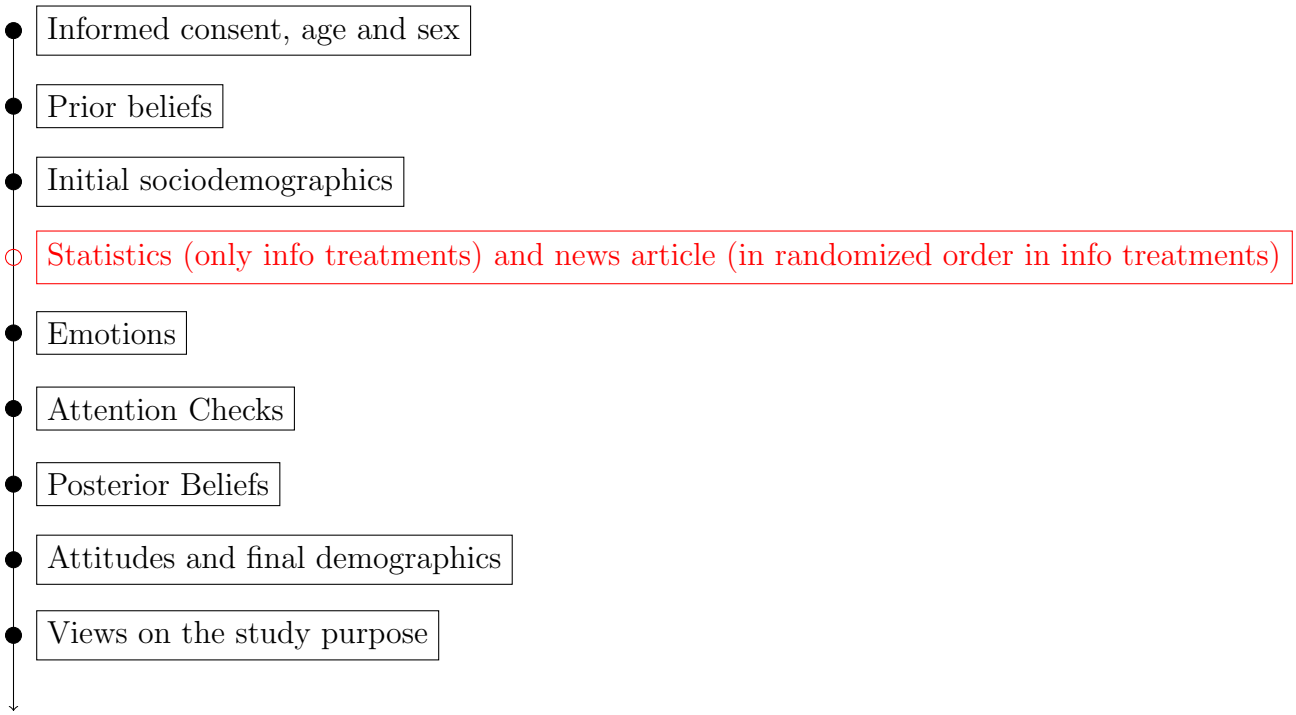
Prior Beliefs: We elicit people's prior beliefs about immigration, We ask five questions about statistical facts. First, we ask the percentage of foreigners in the population residing in Italy. Second, we ask them to estimate the percentage of foreigners among people reported to the judicial authority. Furthermore, we ask the percentage of (i) petty theft (ii) murder (iii) sexual assault among crimes committed by foreigners. In these three cases we also provide the corresponding percentages for natives as a benchmark. Participants answer these five questions using an open-ended format.

Initial sociodemographics: Survey participants are asked about the demographic composition of their household, how religious they are, and their political orientation on a spectrum from left to right (left, center-left, center, center-right, right). At the end of this section, we also ask a general attention check about the favorite-color attention screener, following Haaland et al. (2020).

Statistics (only in info treatments): subjects are presented with a series of statistics taken from ISTAT. Participants are instructed to read them carefully and to note them down as these would be useful in the following screens.

News article: Participants are asked to carefully read a text and are presented with one of our treatment articles (see below). We reveal that the article is taken from one important Italian newspaper but we do not reveal which newspaper. For the first 30 seconds after the article appears on their screens, participants cannot progress to the next screen.

Figure 1: Structure of the survey experiment



Emotions: After reading the article, participants are asked to report their emotions. We present participants with a list of seven emotions and ask them on a scale from 1 to 7 how strongly they felt each emotion while reading the article (Bosman et al., 2005; Bosman and Van Winden, 2002). Following Ekman et al. (1999), we chose seven basic emotions: anger, contempt, disgust, fear, joy, sadness, surprise. All emotions were presented in the same screen and the order in which the emotions were presented was randomized across participants.

Attention checks: In order to assess whether participants read carefully the article, we ask them whether they remembered the *topic* of the article (rape, murder, theft, culture, or other) and the *location* (north, center, or south of Italy). These three variables are elicited using multiple choice questions.

Posterior Beliefs: We ask again the same questions about immigration statistics to measure how the treatments have changed respondents' posterior beliefs.

Attitudes and final sociodemographics: In the last part of the questionnaire participants fill in additional sociodemographics and attitudes questions. In this part, we elicit atti-

tudes towards migration using three questions. The first question asks whether the number of migrants arriving in Italy every year should be reduced a lot/reduced a bit/left unchanged/increased a bit/increased a lot. The second is taken from the European Social Survey and asks whether the arrival of immigrants from different countries has made Italy a better or a worse place to live on a scale from 0 to 10. Finally, we ask whether participants would like to sign a petition to the Italian Parliament. They could select one of the following three options: (a) I would like to sign a petition to increase the number of residence permits issued each year to foreigners (b) I would like to sign a petition to reduce the number of residence permits issued each year to foreigners (c) I am not willing to sign any petition. We will use all three attitudes as outcome variables of interest.

Views on the study purpose To control for experimenter demand effect, we first ask respondents whether they thought about the research objective while answering the questionnaire. If yes, we then ask whether these objectives had any influence on the way they answered the questionnaire.

2.2 Treatments

Our treatments vary along two dimensions: the article to be read and whether or not participants receive statistical information. We describe each treatment in details below.

Control: Participants in the control group receive no statistical information and are asked to read a neutral article about a cultural festival in Italy.

Rape News: In this treatment participants receive no statistical information and are asked to read an article reporting a rape perpetrated by an immigrant against a young women on her way to work.

Murder News: In this treatment participants receive no statistical information and are asked to read an article reporting a murder perpetrated by an immigrant against a women in a bar at night.

Theft News: In this treatment participants receive no statistical information and read an article reporting a petty theft of a woman's handbag committed by an immigrant.

Info: This treatment is identical to the control treatment except for the statistical information that participants receive. As mentioned above, the statistical information contains all the data that we subsequently ask in the beliefs questionnaire, that is, the percentage

of foreigners in the population, the percentage of foreigners among criminals, the percentage of rapes, murders and thefts among crimes committed by foreigners. Participants were informed that all data are taken from Italian National Institute of Statistics (ISTAT) and refer to the year 2022.

Rape news & Info: This treatment exposes participants to statistical information and to the rape news article. The order of the two screens will be randomized.

Murder news & Info: This treatment exposes participants to statistical information and to the murder news article. The order of the two screens will be randomized.

Theft news & Info: This treatment exposes participants to statistical information and to the theft news article. The order of the two screens will be randomized.

3 Main Hypotheses

Hypothesis 1 - crime news treatments:

- (H1a) Relative to the control group, *Rape News* and *Murder News* increase respondents' negative emotions felt while reading the news. We expect this effect to be stronger compared to *Theft News*.
- (H1b) Relative to the control group, *Rape News*, *Murder News* and *Theft News* increase the perceived share of immigrants among offender (posterior belief) to a similar extent. It is nonetheless possible that the news differentially affect beliefs about the type of crime that immigrants tend to commit (rape, murder, theft).
- (H1c) Relative to the control group, *Rape News*, *Murder News* increase anti-immigration attitudes. We expect this effect to be stronger compared to *Theft News*.

Hypothesis 2 - info treatments:

- (H2a) We expect that, relative to the control group, respondents in the *Info* treatment will:
  - Have more accurate posterior beliefs, i.e., closer to the truth.
  - Have slightly less anti-immigration attitudes, although the attitudinal effect might be small.

- (H2b) We expect that, conditional on being provided with statistical information, the exposure to high emotion news still increases anti-immigration attitudes. We thus expect negative impact on attitudes towards immigration when comparing the *Rape news & Info* and *Murder news & Info* treatments to the *Info* treatment.

- (H2c) Relative to *Info*, *Rape News & Info* and *Murder News & Info* have a stronger effect on anti-immigration attitudes compared to *Theft News & Info*.

Hypothesis 3 - Combined effect on attitudes:

- Relative to the control group, we expect that the *Rape News & Info* and *Murder News & Info* have a negative effects on attitudes towards immigration, that is, we expect that the emotional reaction to the high emotional crime news (rape and murder) dominates the belief-updating impact of information provision.

4 Setting and sample size

4.1 Sample

We will recruit subjects using Cint, a multinational market research platform. We will recruit 12,000 subjects; we will assign the same number of respondents to each of the eight different conditions of Table 1. We will implemented sampling quotas to ensure that the participants are representative of the adult 18-65 Italian population on gender, age, and geographical area.

4.2 Power Analysis

1,500 subjects per treatments give us 0.8 power to detect an effect size of 0.10 of a standard deviation between the control group and each of the treatments at a .05 significance level.

5 Analysis

5.1 Econometric specification

To investigate how the treatments affect respondents' beliefs, emotions and attitudes towards immigration, we estimate the following equation using OLS:

$$Y_i = \alpha + \sum_{j=1}^{7} \gamma_j T_i^j + X_i'\beta + \varepsilon_i \tag{1}$$

where:

- Y_i is the outcome for individual i: either emotions, posterior beliefs, or attitudes towards immigration.
- T_i^j are dummies indicating the seven treatments (see Table 1), namely: *Rape news*, *Murder news*, *Theft news*, *Info*, *Rape news & Info*,*Murder news & Info*,*Theft news & Info*. The reference group is the control group.
- X_i is a vector of controls including gender, age , respondents' and parental birthplace, marital status , highest educational attainment, number of adult and under-18 household member, current occupation, family income, area of residence, self-reported placement on the political scale, and prior beliefs. For robustness, the controls also include attention checks.
- ε_i is an individual-specific error term. We use heteroscedasticity-robust standard errors for all specifications.

Outcome variables: Attitudes towards immigration.
We will use three variables:

- A binary indicator that takes value 1 if the respondent thinks that the number of immigrants should be reduced a lot and zero otherwise.
- A binary indicator taking value 1 if the participant is willing to sign a petition to increase the number of residence permits and zero otherwise.
- A continuous measure (scale from 0 to 10) of respondent's views about whether the arrival of immigrants from different countries has made Italy a better or worse place to live.

Outcome variables: Beliefs .
For each of the five factual questions about statistics, we will use the following three outcomes:

- Posterior beliefs
- Absolute value of the distance between the truth and the posterior beliefs
- Beliefs Updating: difference between Posterior and Prior beliefs (controlling for prior beliefs in the regression)

Outcome variables: Emotions .
We use two measures of emotions. The first is constructed as the average of all the negative emotions (fear, anger, sadness, disgust, contempt), with values between 1 and 7. We also also construct a variable labeled "negative emotional valence" as the difference between negative emotions (fear, anger, sadness, disgust, contempt) and positive ones (joy and surprise). The variable is standardized to take values between -1 and 1, with higher values representing a more negative emotional state, and 0 a perfect balance between positive and negative emotions.

5.2 Heterogeneous treatment effects

5.2.1 Heterogeneity: prior beliefs

We will investigate whether subjects with different prior beliefs (pre-treatment) respond differently to the treatments. In particular, we expect that people who have more biased prior beliefs should respond more strongly to the information treatments.

5.2.2 Heterogeneity: others

We will also explore heterogeneity fo he treatment effects along the following dimensions: gender, political orientation and education.

5.3 Robustness Checks

We examine the robustness of the main results to alternative sample and alternative specifications. Regarding the sample, we estimate the regression either : (i) in the entire sample (no restriction), (ii) in sample of respondents who correctly answered the favorite-color attention

screener (see section 2.1), (iii) or in the sample restricted to individuals who correctly answered the attention checks related to the news story (in particular who correctly identified the topic of the news story).

Regarding the specification, we will run different specifications with different sets of regression controls. Starting with a regression without any controls and then progressively adding controls to the right-hand side. In particular, we add (i) age, sex and education (ii) other socio-demographic characteristics (like birthplace, marital status, occupation, etc.) (iii) political orientation (iv) attention checks.

We will further run additional robustness analyses to control for experimenter demand effects using the variables on the views on the study purpose (see 2.1 above).

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