CESifo WORKING PAPERS

10306
2023

March 2023

Priming Attitudes Towards Immigrants: Implications for Migration Research and Survey Design

Patrick Dylong, Paul Setzepfand, Silke Uebelmesser

CESifo

Impressum:

CESifo Working Papers
ISSN 2364-1428 (electronic version)
Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH
The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute
Poschingerstr. 5, 81679 Munich, Germany
Telephone +49 (0)89 2180-2740, Telefax +49 (0)89 2180-17845, email office@cesifo.de
Editor: Clemens Fuest
https://www.cesifo.org/en/wp
An electronic version of the paper may be downloaded
· from the SSRN website: www.SSRN.com
· from the RePEc website: www.RePEc.org
· from the CESifo website: https://www.cesifo.org/en/wp

CESifo *Working Paper No. 10306*

Priming Attitudes Towards Immigrants: Implications for Migration Research and Survey Design

Abstract

Using data from two representative and large-scale population surveys with more than 4000 participants, we investigate the effect of randomized priming interventions on attitudes towards immigrants. We document robust null effects of these interventions under two experimental settings, across two surveys and for a range of specifications. Our results suggest that (economic) attitudes towards immigrants are less sensitive to priming than previous research indicates. We thus provide (i) a reference point for settings in which intentional priming interventions are ineffective, and (ii) an upper bound for unintended priming effects. We argue that researchers should not be overly concerned about confounding priming effects when designing surveys to elicit attitudes towards immigrants.

JEL-Codes: C830, C900, J150, F220.

Keywords: attitudes towards immigration, priming, experimental design.

Patrick Dylong
University of Jena / Germany
patrick.dylong@uni-jena.de

Paul Setzepfand
University of Mannheim / Germany
paul.setzepfand@students.uni-mannheim.de

*Silke Uebelmesser**
University of Jena / Germany
silke.uebelmesser@uni-jena.de

March 1, 2023
The experiments evaluated in this study have been pre-registered in the AEA RCT Registry under IDs: AEARCTR-0006716 and AEARCTR-0008166. The pre-registration details and corresponding pre-analysis plans are available at: www.socialscienceregistry.org/trials/6819 and www.socialscienceregistry.org/trials/8166. IRB approval for both experiments was obtained at the University of Jena. This work is supported by the Free State of Thuringia and the European Social Fund (grant number WBV180515; declarations of interest: none).

1 Introduction

Priming and salience interventions[1] have become increasingly popular in economics in recent years, most notably in studies that involve survey experiments (see e.g. Aksoy et al. 2021; Alesina et al. 2023; Barrera et al. 2020; Daniele et al. 2020). These interventions have been used to study how concepts such as social identity or culture and norms affect preferences and behavior.

A key feature of priming is that researchers randomly expose respondents to thematically different blocks of survey questions without directly interfering with their information sets. Priming then enables researchers to elicit in a controlled setting how attitudes, preferences and behavior may change in response to overall changes in the salience of features of the economic or social environment. There is a growing body of literature which studies the effects of priming interventions on attitudes towards immigrants (Alarian and Neureiter 2021; Bartoš et al. 2021; Hatton 2021). These survey-based approaches have in common that they suggest that priming-induced increases of the salience of immigration or economic crises are associated with more negative attitudes towards immigrants.

In this paper, we use two survey experiments to analyze whether priming respondents about the COVID-19 pandemic or the characteristics of the immigrant population affects their attitudes towards immigrants. With data from two representative and large-scale surveys, we find no support for sizeable priming effects on support for immigration and attitudes towards immigrants. Instead, we document precise estimates of null effects across treatments and surveys that are robust to a range of specifications.

[1] Priming is a well-established approach in psychology to study the effects of mental stimuli on individuals' preferences and behavior response patterns. The key idea is that by activating a specific mental concept, it becomes more salient as the subject is more inclined to think about the topic at hand. By this, researchers attempt to investigate how certain concepts can affect judgement and behavior of their subjects (see Bargh and Chartrand 2014, for a comprehensive guide to priming techniques in the field of experimental psychology).

Our findings contribute to the literature on priming interventions in two ways: First, we show that attitudes towards immigrants are less sensitive to priming than previous research indicates. This documentation of a precise null result in our setting is also of relevance in light of recent research reporting penalties for publishing null effects in economics (Chopra et al. 2022).

Second, and more generally, the findings are of methodological interest for the design of survey experiments. We provide a reference point for settings in which intentional priming interventions are ineffective. At the same time, we provide an upper bound for priming effects, which are unintended. In sum, we argue that researchers should not be overly concerned about accidental priming of respondents as a potential source of confoundment (Haaland et al. 2023) when designing surveys to elicit attitudes towards immigrants.

2 Data and Experimental Design

The data stem from two representative and large-scale surveys conducted in Germany in November/December 2020 (Survey 1) and September 2021 (Survey 2). For the two surveys combined, the total sample size consists of 4122 observations for which we have complete information on the variables used in the analysis. Both surveys are representative of the German adult population in terms of observable characteristics.[2]

The priming interventions consist of changing the order in which subjects were given blocks of questions on different topics. In Survey 1, we used a COVID-19 priming treatment in which the treatment group received the questions about their COVID-

[2]Specifically, our data fulfill representativity quotas in terms of age, gender, educational background and residence in East or West Germany.

19-related experiences[3] before answering the questions used to elicit their attitudes towards immigrants. The control group received these blocks in reverse order.

In Survey 2, we conducted a similar priming intervention, which consisted of two treatment arms. Specifically, treated participants received a set of questions about their perception of the immigrant population in Germany (e.g. their beliefs about the share of immigrants), before being asked about their attitudes towards immigrants. The control group received this block of questions about belief elicitation only after the questions on attitudes towards immigrants. The experimental design and the size of the experimental groups are shown in Figure 1.

We elicit respondents' (economic) attitudes towards immigrants with three survey items: the perceived effect of immigration on the welfare state (henceforth, Welfare), the perceived effect of immigration on the labor market (henceforth, Labor), and their preferred level of immigration to their country (henceforth, Policy). Since the former two items use an 11-point scale, whereas the latter is measured on a 5-point scale, we standardize all outcome variables for better comparability.[4]

Table 1 provides an overview of additional covariates which are included in our tests for experimental balance. Specifically, we provide p-values for between-subject t-tests (Survey 1) and tests of joint orthogonality of the covariates' means across experimental groups (Survey 2). In sum, the experiments are well balanced across experimental groups. We observe a small imbalance for concerns about immigration, which have, however, been measured pre-treatment. To ensure robustness and increase the precision of our estimates, we will control for all covariates from the balance tests in all specifications.

[3]These questions involved the subjects' general assessment of the pandemic as well as questions directly targeting the economic and health risks posed by the pandemic.

[4]The wording of the survey questions, which constitute our priming interventions, and of our outcome variables is presented in the appendix.

3 Model Specifications and Estimation

Since treatments are assigned randomly, we can estimate priming effects by comparing the mean levels of outcome variables across the different treatment groups, conditional on the covariates from the balance tests. In order to estimate priming effects in terms of average treatment effects (ATE), we first test our main model specification by estimating the following equation (specification A):

$$Y_i = \gamma_0 + \gamma_1 Primed_i + \delta Z_i' + \varepsilon_i, \tag{1}$$

where Y_i corresponds to the vector of immigration-related outcomes outlined in Section 2, $Primed_i$ is a dummy variable which takes the value 1 if individual i has been primed with the COVID-19 block or the block on beliefs about immigrants, and 0 otherwise. Finally, Z_i denotes the vector of covariates described in the previous section, and ε_i is the error term.

Secondly, we test an extended model, which additionally includes an interaction between $Primed_i$ and IC_i, which captures the respondents' ex-ante – that is, prior to the treatment – concerns about immigration (specification B):

$$Y_i = \alpha_0 + \alpha_1 Primed_i + \alpha_2 IC_i + \alpha_3 Primed_i \times IC_i + \rho Z_i^{*\prime} + \varepsilon_i, \tag{2}$$

with $Z_i^{*\prime}$ being the strict subset of Z_i that excludes pre-treatment immigration concerns IC_i, as they are now added separately to the estimation equation. With this extension, we aim to capture potential heterogeneity in response to priming across individuals with different ex-ante levels of concerns about immigration.[5]

[5]For instance, one could think of settings where priming is more effective among individuals who are generally more opposed to the issue at hand. That is people who are more skeptic and/or negative about immigration might be more prone to the priming experiments.

Thirdly, and following a similar line of reasoning, we include general concerns about the COVID-19 pandemic or respondents' beliefs about the immigrant population in the final model specification. Equations (1) and (2) did not comprise these covariates as the respective survey questions were part of the priming interventions themselves. Still, it could be the case that these variables are important for priming effect heterogeneity.

More specifically, we re-estimate equation (1) including these additional controls for the full samples (specification *C*1) and subsequently limit the samples to respondents who report above-median concerns about the COVID-19 pandemic and respondents with biases when stating their beliefs about the immigrant population, respectively (specification *C*2).[6] Increasing salience of immigration through priming could potentially have stronger effects in these sub-samples than in the full sample. We then compare priming effects for those respondents who are potentially more susceptible to priming in our context with the results from the full-sample specifications, controlling for concerns about the pandemic and respondents' beliefs about immigrants in both cases.

4 Results

Table 2 presents the results of our priming experiments. Panels *A* to *C* report the results separately for each of the model specifications described in the previous section. Across all specifications, we find robust null effects of our priming interventions, both in the COVID-19 setting and in the belief elicitation setting. That is, prompting subjects to think about a prevalent economic and health crisis or the current state of immigration

[6]The latter group consists of those respondents who – when asked about the share of immigrants in Germany – overestimated the actual share (13 percent), and either overestimated the unemployment rate among immigrants (15 percent) or underestimated the share of European migrants across all immigrants in Germany (66 percent), depending on the treatment arm. These people show a biased perception of immigration and could be more susceptible to priming interventions in the context of attitudes towards immigration.

in Germany does not sizeably affect their attitudes towards immigrants in the context of our experiments.

It is important to note that across specifications and surveys, the estimated standardized effect sizes are very close to zero with standard errors of around 4 percent of a standard deviation. As our sample size entails sufficient statistical power to detect even small effect sizes, we hence interpret our estimates to show precise and robust null effects of our priming interventions.[7] Accounting for potential heterogeneity in pre-treatment concerns about immigration, concerns about the COVID-19 pandemic and beliefs about the immigrant population does not change our results (see panels B, C1 and C2). While respondents' pre-treatment concerns about immigration are statistically significantly associated with our outcome variables on their own, they do not moderate the effects of priming in our setting.

5 Discussion and Conclusion

We examine two survey experiments on the relevance of priming interventions for attitudes towards immigrants. Our results have two main implications: First, we provide evidence that attitudes towards immigrants are less sensitive to priming than previous research indicates. Second, we relate the interpretation of our results to methodological questions about the design of survey experiments. We distinguish between settings where researchers do not intentionally employ priming techniques and those where they intentionally use priming as a treatment device.

For the "intentional" setting, we provide evidence for ineffective priming interventions. For the "unintentional" setting, we argue that researchers should not be overly concerned as even with intentional priming interventions as in our settings, respon-

[7] An exception to this is a statistically significant coefficient of the COVID-19-priming treatment on immigration policy preferences. Given that this effect reduces in statistical significance once we account for respondents' concerns about the pandemic, we do not interpret this finding as a robustly positive effect.

dents remain unaffected by such mental stimuli. Concerns of researchers about biases due to accidental priming and thus potential confoundment within their surveys do not seem justified in the context of attitudes towards immigrants. Future research could aim at a deeper understanding of the mechanisms behind priming and why and in what context priming affects – or does not affect – socioeconomic attitudes.

References

Aksoy, Cevat Giray, Antonio Cabrales, Mathias Dolls, Ruben Durante, and Lisa Windsteiger (2021). *Calamities, Common Interests, Shared Identity: What Shapes Altruism and Reciprocity?* EconPol Working Paper 64.

Alarian, Hannah M. and Michael Neureiter (2021). "Values or Origin? Mandatory Immigrant Integration and Immigration Attitudes in Europe". *Journal of Ethnic and Migration Studies* 47 (5), 1006–1027.

Alesina, Alberto, Armando Miano, and Stefanie Stantcheva (2023). "Immigration and Redistribution". *The Review of Economic Studies* 90 (1), 1–39.

Bargh, John A. and Tanya L. Chartrand (2014). "The Mind in the Middle: A Practical Guide to Priming and Automaticity Research". In: *Handbook of Research Methods in Social and Personality Psychology*. Ed. by Charles M. Judd and Harry T. Reis. Second edition. Cambridge: Cambridge University Press, 311–344.

Barrera, Oscar, Sergei Guriev, Emeric Henry, and Ekaterina Zhuravskaya (2020). "Facts, Alternative Facts, and Fact Checking in Times of Post-Truth Politics". *Journal of Public Economics* 182, 104123.

Bartoš, Vojtěch, Michal Bauer, Jana Cahlíková, and Julie Chytilová (2021). "Covid-19 Crisis and Hostility against Foreigners". *European Economic Review* 137, 103818.

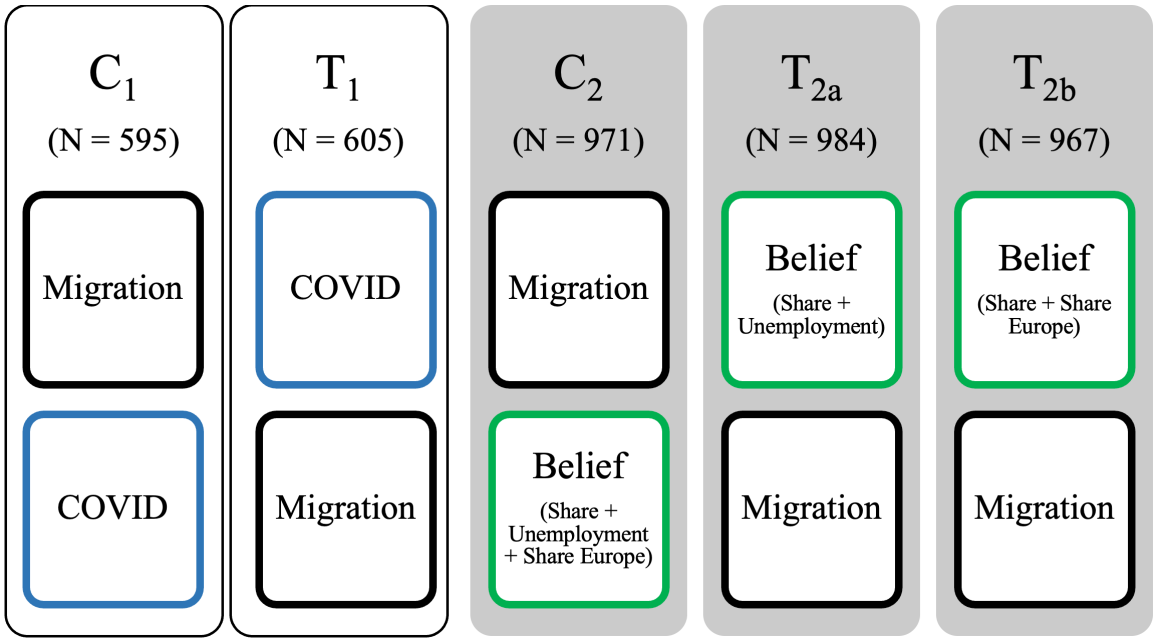
Chopra, Felix, Ingar Haaland, Christopher Roth, and Andreas Stegmann (2022). *The Null Result Penalty*. CESifo Working Paper No. 9776.

Daniele, Gianmarco, Andrea F.M. Martinangeli, Francesco Passarelli, Willem Sas, and Lisa Windsteiger (2020). *Wind of Change? Experimental Survey Evidence on the Covid-19 Shock and Socio-Political Attitudes in Europe*. CESifo Working Paper No. 8517.

Haaland, Ingar, Christopher Roth, and Johannes Wohlfart (2023). "Designing Information Provision Experiments". *Journal of Economic Literature*, forthcoming.

Hatton, Timothy J. (2021). "Public Opinion on Immigration in Europe: Preference and Salience". *European Journal of Political Economy* 66, 101969.

Figure 1: Experimental design: survey 1 (white) and survey 2 (grey)



Notes: The figure shows a graphical representation of the design of our priming experiments across the two surveys. In both surveys, we randomly vary the order of the blocks of questions for respondents. This constitutes our priming interventions. In survey 1, respondents are primed about the salience of the COVID-19 crisis (T_1). In survey 2, respondents are primed about the size and the characteristics of the immigrant population in two treatment arms: T_{2a} elicits beliefs about the share of immigrants and immigrants' unemployment rate; T_{2b} elicits beliefs about the total share of immigrants and the share of immigrants from a European country. The numbers of observations for each experimental group are given in parentheses.

Table 1: Summary statistics and balance tests.

	Survey 1			Survey 2			
	C_1	T_1	p-value	C_2	T_{2a}	T_{2b}	p-value
Age group	3.254	3.236	0.833	3.321	3.414	3.328	0.275
Female	0.526	0.498	0.323	0.499	0.477	0.523	0.120
Education	1.934	2.012	0.113	2.003	2.020	1.972	0.432
Migration background	0.195	0.223	0.230	0.255	0.239	0.238	0.599
Employed	0.513	0.502	0.726	0.504	0.497	0.524	0.453
Income	2.484	2.476	0.911	2.545	2.510	2.527	0.835
East Germany	0.139	0.162	0.277	0.157	0.132	0.146	0.306
Concerns about immigration	5.484	5.797	0.090*	5.873	5.836	6.179	0.034**

Notes: Comparison of treatment and control groups by between-subject t-tests (Survey 1) and tests of joint orthogonality of the covariates' means across experimental groups (Survey 2); * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Age group and education are measured on a 5-point and 3-point scale, respectively. Income is measured in brackets of 5 categories. Concerns about immigration are measured on an 11-point scale and are elicited pre-treatment. The remaining covariates are coded as binary variables.

Table 2: Effects of priming on attitudes towards immigrants.

	COVID-Priming			Belief-Priming (I)			Belief-Priming (II)		
	Welfare	Labor	Policy	Welfare	Labor	Policy	Welfare	Labor	Policy
Panel *A*:									
Primed	0.057	0.029	0.083**	−0.010	−0.002	−0.000	−0.025	−0.001	0.034
	(0.048)	(0.048)	(0.040)	(0.038)	(0.037)	(0.033)	(0.038)	(0.039)	(0.033)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1200	1200	1200	1955	1955	1955	1938	1938	1938
Panel *B*:									
Primed	0.057	0.025	0.083**	−0.010	−0.002	−0.001	−0.026	−0.004	0.035
	(0.048)	(0.048)	(0.040)	(0.038)	(0.037)	(0.033)	(0.038)	(0.039)	(0.034)
Concerns about immigration	−0.531***	−0.538***	−0.648***	−0.535***	−0.514***	−0.653***	−0.539***	−0.511***	−0.647***
	(0.039)	(0.038)	(0.030)	(0.030)	(0.031)	(0.026)	(0.030)	(0.031)	(0.026)
Primed × concerns about immigration	0.003	−0.050	0.001	0.018	−0.003	−0.054	0.030	0.057	−0.020
	(0.051)	(0.053)	(0.041)	(0.040)	(0.040)	(0.033)	(0.042)	(0.045)	(0.035)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1200	1200	1200	1955	1955	1955	1938	1938	1938
Panel *C*1:									
Primed	0.053	0.027	0.077*	−0.011	−0.013	−0.002	−0.028	−0.017	0.030
	(0.048)	(0.048)	(0.040)	(0.037)	(0.037)	(0.033)	(0.039)	(0.039)	(0.033)
COVID concerns	Yes	Yes	Yes	No	No	No	No	No	No
Beliefs	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1200	1200	1200	1955	1955	1955	1934	1934	1934
Panel *C*2:									
Primed	0.053	−0.043	0.001	−0.061	0.007	−0.027	−0.056	−0.026	0.042
	(0.081)	(0.080)	(0.068)	(0.052)	(0.054)	(0.046)	(0.047)	(0.047)	(0.040)
COVID concerns	Yes	Yes	Yes	No	No	No	No	No	No
Beliefs	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	455	455	455	1022	1022	1022	1366	1366	1366

Notes: Outcome variables are coded such that a higher value indicates more positive attitudes towards immigrants. Outcomes and interacted concerns about immigration have been standardized in terms of their mean and standard deviation. Robust standard errors are displayed in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The controls comprise of all covariates employed in the balance tests. In panels *C*1 and *C*2, we additionally control for concerns about the pandemic and beliefs about the immigration population, respectively. Panel *C*2 is limited to those with above-median concerns about the COVID-19 pandemic and those with biases when stating their beliefs about the immigrant population, respectively.

Online Appendix

Questions Blocks used for Priming Treatments

COVID-Priming:

The following questions are about your experiences during the COVID-19 Crisis.

Q1: All in all, how concerned are you personally about the COVID-19 crisis?

- 0: Not concerned
- 1-9: [...]
- 10: Very concerned

Q2: How big are your financial losses to date as a result of the COVID-19 crisis?

- 0: No losses
- 1-9: [...]
- 10: Very large losses

Q3: Have you or someone close to you tested positive for the coronavirus? "Positive" means a current or past infection.

- 1: Yes
- 0: No

Q4: When you think about the next 6 months, what do you expect with regard to the development of the COVID-19 crisis?

- 1: Becomes worse
- 2: Remains the same
- 3: Becomes better

Belief-Priming (I) and (II):

Q1: Now it is about the share of immigrants in Germany. What do you estimate, please answer spontaneously: What percentage of people living in Germany do not have German citizenship?.
Hint text (clickable via question mark icon): "The percentage is understood here as the number of immigrants per 100 inhabitants in Germany."

Open: Percent

Q2 (I): Now it is about the unemployment rate of working-age immigrants in Germany. What do you estimate, please answer spontaneously: What percentage of these people are unemployed?.
Hint text (clickable via question mark icon): "The percentage is understood here as the number of unemployed persons per 100 immigrants of working age in

Germany. Immigrants are considered unemployed if they are registered as unemployed with the Federal Employment Agency. Asylum seekers and tolerated persons are included in the unemployment rate if they have a work permit but no job and are registered as unemployed."

Open: Percent

Q2 (II): Now it is about all immigrants who have come to Germany in 2019. What do you estimate, please answer spontaneously: What percentage of these immigrants come from a European country?.
Hint text 1 (always visible): "European countries include the countries of the European Union and European third countries including Turkey and the Russian Federation."
Hint text 2 (clickable via question mark icon): "The percentage is understood here as the number of European persons per 100 immigrants to Germany."

Open: Percent

Outcome Variables

Q1: Welfare: Immigrants pay taxes and receive social benefits from the health care and social insurance systems. On balance, do you think that immigrants in Germany receive more social benefits than they pay taxes, or that they pay more taxes than they receive social benefits?

0: Receive more social benefits

1-9: [...]

10: Pay more taxes

Q2: Labor: Do you think that immigrants rather take away jobs from workers in Germany, or that they rather help to create new jobs?

0: Take jobs away

1-9: [...]

10: Create new jobs

Q3: Policy: Do you think that the number of immigrants coming to Germany each year should be

1: Decreased a lot

2: Decreased slightly

3: Stay the same

4: Increased slightly

5: Increased a lot