



RIETI Discussion Paper Series 20-E-023

The Effects of Negative and Positive Information on Attitudes toward Immigration

IGARASHI, Akira

Rikkyo University

ONO, Yoshikuni

RIETI



Research Institute of Economy, Trade & Industry, IAA

The Research Institute of Economy, Trade and Industry

<https://www.rieti.go.jp/en/>

The Effects of Negative and Positive Information on Attitudes toward Immigration¹

Akira Igarashi
Assistant Professor, Rikkyo University
and
Yoshikuni Ono
Professor, Tohoku University
Faculty Fellow, Research Institute of Economy, Trade and Industry

Abstract

The literature on immigration has emphasized the close connection between potential threats posed by immigrants and the development of anti-immigrant sentiment among natives. Yet, immigrants also benefit the host society, and we know little about the effects of perceived benefits on attitudes toward immigration. By conducting a vignette survey experiment, we explore how exposure to negative and positive information about immigrants shapes people's attitudes toward immigration. Our results show that feelings of hostility toward immigrants are reduced in respondents when they are exposed to positive information, while the exposure to negative information does not necessarily change their attitude. Interestingly, these results are equally observed across four major issue domains discussed in existing studies—jobs, financial burden, culture, and physical safety. Furthermore, the effects of exposure to positive information are not modified by partisanship, race, education, or exposure to immigrants. These results suggest that pro-immigrant rhetoric can be effective in changing people's attitudes toward immigration.

Keywords: Immigration, Media Frames, Public Opinion, Survey Experiment
JEL classification: J15, D72, D91

The RIETI Discussion Paper Series aims at widely disseminating research results in the form of professional papers, with the goal of stimulating lively discussion. The views expressed in the papers are solely those of the author(s), and neither represent those of the organization(s) to which the author(s) belong(s) nor the Research Institute of Economy, Trade and Industry.

¹This study is conducted as a part of the Project “Research on Political Behavior and Decision Making: Searching for evidence-based solutions to political challenges in the economy and industry” undertaken at the Research Institute of Economy, Trade and Industry (RIETI). The author is grateful for helpful comments and suggestions by Discussion Paper seminar participants at RIETI.

1. Introduction

Social and political issues concerning immigrants and ethnic/racial minorities are becoming more salient as the number of immigrants is growing rapidly in many developed countries. As diversity increases, so too do intergroup interactions and tensions within the host society. It appears that the negative aspects of intergroup relations between natives and immigrants have contributed to many of the recent political developments around the world, such as the “migrant crisis” in Europe, Brexit, and the electoral success of extreme right-wing parties and populist politicians.

Prejudice toward immigrants (the out-group), and its development process among natives (the in-group), has been one of the major research agendas for social scientists. A leading theory of negative intergroup relations—the group threat theory—argues that, reacting to the threats posed by out-group members, who are seen as competitors for valuable resources, in-group members develop negative attitudes toward the out-group members (Blumer, 1958). For more than 50 years, studies have shown that threat perceptions drive in-group members’ attitudes toward out-group members in a negative direction (Enos, 2016; Igarashi, 2018; Lancee & Pardos-Prado, 2013; Schlueter, Schmidt, & Wagner, 2008; Sniderman, Hagendoorn, & Prior, 2004).

However, immigrants do not always deteriorate the living standard of natives. Although some studies show mixed evidence (e.g., Borjas, 2003), immigrants do not necessarily pose a threat by competing for resources. In fact, empirical studies suggest that immigrants increase natives’ wages in the long-term (e.g., Ottaviano & Peri, 2012), decrease the crime rate (e.g., Ousey & Kubrin, 2009), and make a positive contribution to the economy (e.g., Dustmann & Frattini, 2014). Despite these positive benefits, negative threats tend to be more salient issues for natives (Kahneman & Tversky, 1979).

How do natives—people in the majority group—respond to these benefits that immigrants may bring to the society? Do they change their attitudes when they see the positive benefits as much as when they see the negative threats? While previous studies have focused exclusively on the effects of perceived negative threats on prejudice (e.g., Hainmueller & Hiscox, 2010; Quillian, 1995), few studies have considered whether the potential positive benefits of immigration effects natives’ attitudes toward immigrants.

In this study, we conducted an online survey experiment in the United States to examine whether two types of information about immigrants—positive information (benefits) and negative information (threats)—effect natives’ attitude toward immigration in a similar or different manner. Specifically, we examined the effects of four major areas of threats and

benefits discussed in the existing literature: jobs (economy), fiscal burden (welfare), culture, and physical safety (security).

2. Effects of Threat Information on Attitudes toward Immigrants

The group threat theory argues that in-group members (i.e., natives) who perceive out-group members (i.e., immigrants) as a threat to their valuable resources form negative attitudes toward the out-group members (Blumer, 1958). The implications of this theory have been empirically tested from various perspectives in the context of attitudes toward immigration. Most studies have focused on the effects of potential threats posed by immigrants on four areas: jobs, fiscal burden, culture, and physical safety.

First, the effects of the threat concerning job security and labor market competition—the concern that immigrants may take natives’ jobs away—has dominated studies of the group threat theory. Since job positions are often considered to be zero-sum resources, increasing the number of immigrants can be perceived as a threat to natives seeking employment (Esses, Dovidio, Jackson, & Armstrong, 2001). Indeed, unemployed natives are more likely to be concerned about immigrants than those currently employed (Lancee & Pardos-Prado, 2013). Furthermore, Pardos-Prado and Xena (2018) showed that a lack of transferable skills, as well as the scarcity of jobs, induce natives to exhibit hostile attitudes toward immigration.

Second, some natives fear that immigrants will be a burden on the economy, as they believe that the welfare benefits received by immigrants will outweigh the taxes they pay (de Koster, Achterberg, & van der Waal, 2013; Helbling & Kriesi, 2014; Oesch, 2008; van Oorschot, 2000). To attract voters, extreme right-wing parties often advocate “welfare chauvinism,” in which natives are exclusively entitled to welfare (e.g., Betz & Johnson, 2004; de Koster, Achterberg, & van der Waal, 2012). The success of this political strategy relies on natives’ dislike for “incompetent” immigrants who depend on government welfare, and the belief that welfare dependence will reduce natives’ financial benefits (or increase natives’ financial burden). Such concerns could be one of the factors that drives natives to prefer high-skilled immigrants to low-skilled ones (Hainmueller & Hiscox, 2010; Helbling & Kriesi, 2014).

Third, some natives are concerned that their own culture, values, and norms might be endangered by immigrants (Kinder & Sears, 1981; Sears, 1988; Sears, Lau, Tyler, & Allen, 1980; Sniderman & Hagendoorn, 2007). Attempts establish a requirement that

immigrants demonstrate English proficiency is one of the reactions triggered by such a concern. This notion can be explained by the social identity theory (Tajfel, 1978; Tajfel & Turner, 1979), which proposes that people tend to seek similarities with their own in-group members and differentiate themselves from out-group members, as this enhances their positive self-concept. According to this theory, natives' perception that their culture and values may be threatened by out-group members will lead them to develop negative attitudes toward out-group members.²

Fourth, studies have examined the role of perceived threats that out-group members may threaten natives' mortality, physical safety, and security (Canetti-Nisim, Ariely, & Halperin, 2008; Fitzgerald, Curtis, & Corliss, 2012; Lahav & Courtemanche, 2012). Canetti-Nisim et al. (2008) claim that, among the four types of threats, the security threat has the strongest influence on natives' attitudes toward out-group members. Because immigrants are often associated with terrorism and crimes (Farris & Silber Mohamed, 2018), natives tend to perceive a lower level of safety as their community comprises a higher number of immigrants (Semyonov, Gorodzeisky, & Glikman, 2012). Furthermore, an increased awareness of mortality is said to drive people to become more tolerant of intergroup violence and exclusion of out-group members (Pyszczynski, Solomon, & Greenberg, 2015).

While these four types of threats are conceptually different, their effects on natives' attitudes toward immigrants as out-group members have often been analyzed from a single theoretical framework—the group threat theory. Previous studies have paid particular attention to the negative impacts of immigrants on the host society, often ignoring the positive effects that immigrants have on the economic, financial, cultural, and security situations in the country of destination. Focusing exclusively on the threats posed by immigrants does not reflect the reality of the impacts of immigration. For instance, Charnysh (2019) showed that, among Polish communities, the proportion of immigrants is positively related to residents' income and entrepreneurship rates. Peri (2012) also provides evidence that immigrants lead to higher economic productivity, and other studies have shown that immigration contributes to the fiscal stability of the host society (Aubry, Burzyński, & Docquier, 2016; d'Albis, Boubtane, & Coulibaly, 2018; Dustmann & Frattini, 2014;

² Indeed, the Dutch people tend to perceive that Islamic conservative values are incompatible with Dutch values, and thus the Islamic groups will not be able to fully integrate into Dutch society (Sniderman & Hagendoorn, 2007). Experimental studies also show that Europeans prefer asylum seekers who have high native language proficiency and non-Muslims (Bansak, Hainmueller, & Hangartner, 2016).

Martinsen & Pons Rotger, 2017).³ The fear that immigrants will not acquire the values and language of the host society also appears to be unfounded (Arends-Tóth & Vijver, 2003). Furthermore, it has been reported that the crime rate decreases as immigration increases (Bove & Böhmelt, 2016; Ousey & Kubrin, 2009; Stowell, Messner, McGeever, & Raffalovich, 2009).

3. Hypotheses

Most studies on the group threat theory have not examined the effects of immigration benefits on natives' attitudes toward immigration, and nor have they compared the effects of benefits with those of threats. Some studies have examined whether natives feel threatened or not (e.g., Hainmueller & Hiscox, 2010), and others have modeled threats and benefits in a unidimensional manner, with threats and benefits at opposing ends (e.g., Fitzgerald, Curtis, & Corliss, 2012).⁴ However, we know very little about the effects of perceived benefits on attitudes toward immigration.

According to Kahneman and Tversky's (1979) risk aversion theory, people have a tendency toward risk aversion, preferring to avoid losses than acquire equivalent gains. Even when people have a 50/50 chance for gain or loss, expected losses tend to be more influential than expected gains. This may be partly because people tend to remember their past experiences of losses more than their experiences of gains. In a review of the psychological impact of negative versus positive events, Baumeister and colleagues (2001: p. 323-324) suggested that "negative information receives more processing and contributes more strongly to the final impression than does positive information."⁵ Since potential threats posed by immigrants represent risks for natives, the risk aversion theory suggests that natives are likely

³ These studies argue that immigrants contribute to financial sustainability by paying more in tax than what they receive in benefits (Dustmann & Frattini, 2014) and by increasing market-size (Aubry, Burzyński, & Docquier, 2016).

⁴ There are some exceptions. For example, Stephan and his colleagues (2005) showed that people are more likely to form prejudice against negative stereotypes (e.g., hostile) than against positive stereotypes (e.g., warmth and friendly).

⁵ It should be noted that the mechanisms behind the risk aversion tendency is not thoroughly detected. For example, Kermer and colleagues (2006) argue that the risk aversion tendency is merely an affective forecasting error, which is not rooted in actual experiences. Yechian and Telpaz (2012) show that, even though losses have higher affective impact than gains, these impacts are not associated with actual behavior. They further show that the risk aversion tendency is a result of self-serving bias to maintain self-esteem. However, by using fMRI, De Martino and colleagues (2010) show that risk aversion is associated with the activity of amygdala, which is potentially identified as affective region.

to react more strongly to negative information about threats than positive information about benefits. This leads to the following hypothesis about the effects of threats and benefits on people's attitude toward immigration:

Hypothesis 1a: *People exposed to negative information about immigration (threats) exhibit a more negative attitude toward immigration than those who receive no information about immigration (control condition).*

Hypothesis 1b: *On the other hand, people exposed to positive information about immigration (benefits) exhibit a more positive attitude toward immigration than those who receive no information about immigration (control condition).*

Hypothesis 1c: *Furthermore, exposure to negative information has a stronger effect on people's attitude to immigration than exposure to positive information, across all issue domains.*

Studies have found that the effects of threats on attitudes are influenced by individual-level factors, such as personal value of resources and vulnerability to threats. For example, socioeconomic status has a moderating effect on perceived threats, with those who are less advantaged being more reactive and sensitive to economic threats than those who are more advantaged (e.g., Quillian, 1995). In a similar vein, cultural, security, and welfare threats tend to have a higher impact on attitudes toward immigrants when people are highly concerned about the focal issue (e.g., Fitzgerald, Curtis, & Corliss, 2012; Hjerm & Nagayoshi, 2016; Tir & Singh, 2015). Commonly used indicators for resource sensitivity include race, partisanship, socioeconomic status, and residential area. More precisely, people who are White, Republican, have lower educational achievement, or live in areas with a high proportion of immigrants are more sensitive to the negative impacts of immigrants than people without these characteristics (e.g., Ceobanu & Escandell, 2010; Hopkins, 2010; Quillian, 1995; Tir & Singh, 2015). For instance, race is likely to moderate the effects of threat information on participants' attitude toward immigration, such that White participants who are exposed to threat information will show a more negative attitude toward immigration than non-White participants who are exposed to threat information. This leads to the following hypothesis:

Hypothesis 2: *Threats and benefits have a stronger impact on people's attitude toward immigration among those with higher vulnerability and sensitivity for threats.*

4. Research Design

In order to test our hypotheses, we conducted an online survey experiment using vignettes to prime participants' attitudes toward immigrants. The target population was U.S. citizens aged 18 years or older. The sample was drawn from the online panel of Survey Sampling International (SSI) and matched with the census population on age, gender, and the state of residence. The total number of participants who completed our survey was 3,153.

In the vignettes for our experiment, we described the findings of recent empirical studies showing the impact of immigration on each of the following four issue domains: economy, welfare, culture, and security. For each issue domain, there were two versions of the vignette: one reporting positive findings and another reporting negative findings. Thus, there were a total of nine conditions, including a control condition. Participants were randomly assigned to one of the conditions. After reading the vignette, participants were asked about their attitude toward immigration. Those who were assigned to the control group were simply asked about their attitude toward immigration without being exposed to any information about immigration. Full experimental stimuli are presented in the supplemental information, but the titles of each vignette are shown in Table 1.⁶

Table 1. News vignette titles

Issue domain	Framing	Title of News Vignette
Economy	Negative	Immigrants Take Americans' Jobs Away, Study Shows
	Positive	Immigrants Create New Jobs, Study Shows
Welfare	Negative	Immigrants Increase Welfare Burden, Study Shows
	Positive	Immigrants Decrease Welfare Burden, Study Shows
Culture	Negative	Immigrants Undermine American Culture, Study Shows
	Positive	Immigrants Enrich American Culture, Study Shows
Security	Negative	Immigrants Increase Crime Rate, Study Shows
	Positive	Immigrants Decrease Crime Rate, Study Shows

The outcome variable was attitude toward immigration. This was assessed with the following question: "Do you agree or disagree that the U.S. should allow more immigrants from other countries to come and live here?" Participants answered this question on a five-point Likert

⁶ At the end of our survey, we informed participants about the purpose of the study and the fact that we manipulated the content of vignette about immigration. We presented our debriefing statement in the appendix

scale, ranging from 1 (Strongly agree) to 5 (Strongly disagree). Thus, higher scores indicated higher opposition to immigration, and lower scores indicated higher support for immigration. For the manipulation check, and to ensure vignettes were assigned as intended, we asked the following question that is relevant to the vignette assigned to each participant: “How concerned are you about the impact of immigration on the following issues?” Participants answered this question on a five-point Likert scale, ranging from 1 (A great deal) to 5 (None at all), for each of the four issue domains—economy, welfare, culture, and security. We also collected data on age, gender, partisanship, education, race, and proportion of immigrants in participants’ state of residence. These sample characteristics are shown in the supplementary information section.

5. Results

We ran a series of linear regression models to test our hypotheses about the effects of negative and positive information about immigration on participants’ attitude toward immigration. First, we tested the effects of negative and positive vignettes on participants’ attitude toward immigration, without controlling for demographic characteristics (see Table 2). In Model 2, we controlled for demographic characteristics (see Table 2). The results of Model 2 are depicted in Figure 1, which displays the coefficient estimate as well as 95% confidence intervals for each issue domain and vignette valence. A negative coefficient value indicates that participants were less opposed (or more supportive) to immigration than the control condition.

These results demonstrate that, compared to those in the control group, participants who were exposed to positive information about immigration exhibited a significantly more positive attitude toward immigration, consistently across the four different issue domains. Interestingly, the positive vignettes on cultural and security issues were equally influential on attitude toward immigration, and their impact was stronger than the positive vignettes on economic and welfare issues.

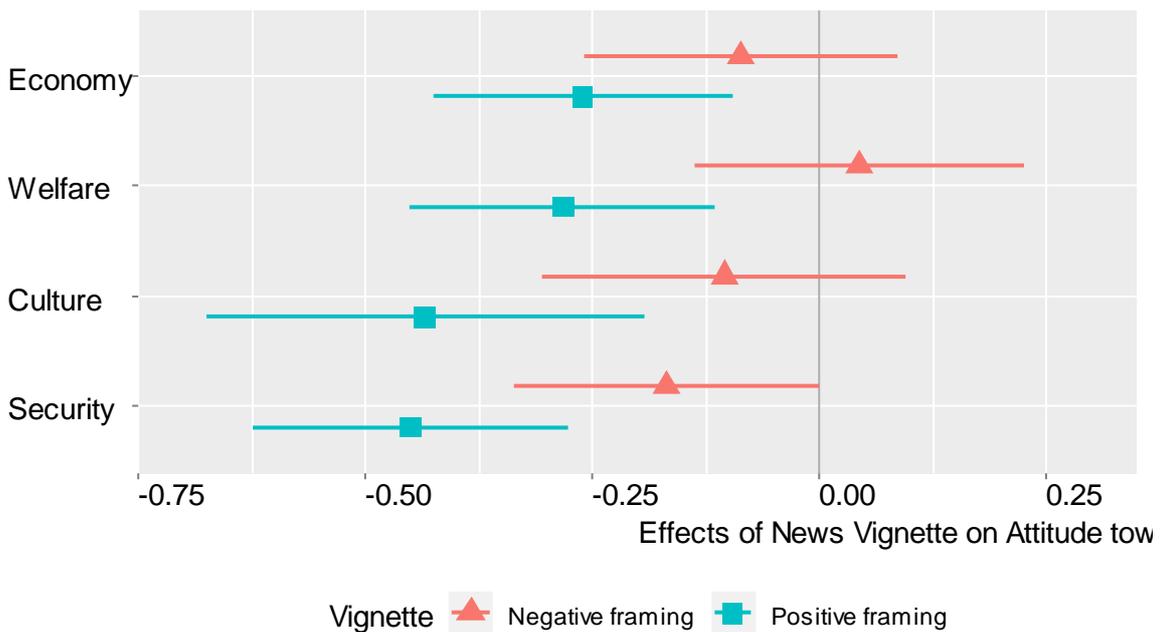
In contrast, participants who were exposed to negative information about immigration did not exhibit a significantly different attitude toward immigration, compared to those in the control condition. In other words, the negative vignettes exerted no influence on participants’ attitudes toward immigration. These results remained unchanged even after controlling for demographics. In addition, except for the economy condition, the positive vignettes exerted a greater influence on participants’ attitude toward immigration than did the negative vignettes. Thus, our data failed to support Hypothesis 1.

Table 2. The main effects of negative and positive vignettes

	Model 1 (without demographics)	Model 2 (with demographics)
Negative framing		
Economy	-.132 (.104)	-.087 (.088)
Welfare	.058 (.100)	.044 (.093)
Culture	-.058 (.112)	-.105 (.102)
Security	-.162 (.088)	-.169 (.086)
Positive framing		
Economy	-.235** (.103)	-.261** (.084)
Welfare	-.286** (.104)	-.283** (.086)
Culture	-.445** (.124)	-.435** (.123)
Security	-.471*** (.104)	-.451*** (.089)
Demographic variables		
Age	-	.012*** (.002)
Race	-	
White	-	.065 (.058)
Education		
High School	-	-.109 (.60)
2-year College	-	-.186** (.063)
University	-	-.517*** (.063)
Partisanship		
Democrats	-	-.547*** (.064)
Republicans	-	.358*** (.067)
No preference	-	-.238* (.101)
Proportion of immigrants	-	.002 (.002)
N	3,153	3,135

*p<.05, **p<.01, ***p<.001. Clustering standard errors are shown in parenthesis.

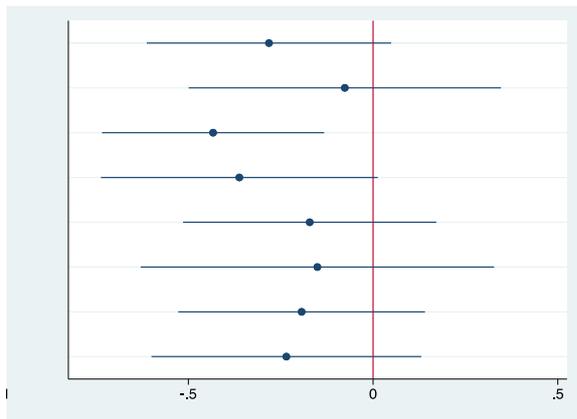
Figure 1 The main effects with demographics controls (Model 2)



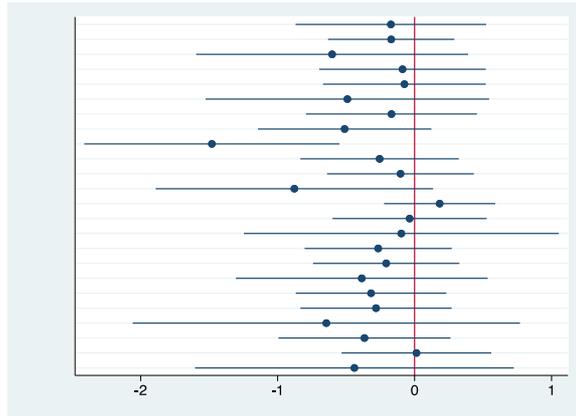
Note: The horizontal axis indicates the coefficient estimates and 95% confidence intervals.

Next, we examined whether participants' reactions to the negative and positive vignettes were influenced by their sensitivity to threats. We tested interactions between the treatment conditions and individual-level factors: race, partisanship, education level, and exposure to immigrants (measured by the proportion of immigrants in their state of residence). The four panels of Figure 2 present the results of interaction terms added to Model 2. Importantly, the effects of negative and positive vignettes on people's attitude toward immigration were invariant across any of these modifiers. The interactions between treatment conditions and these variables were not statistically significant at the conventional level. In other words, regardless of partisanship, race, education, and exposure to immigrants, the positive vignettes (benefits) equally reduced negative attitudes, while negative vignettes (threats) were not influential. These results remained the same even when we added the interaction terms one by one. Thus, Hypothesis 2 was not supported by our data.

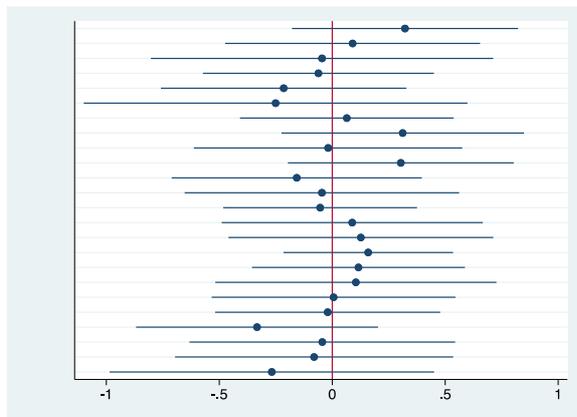
Figure 2. Interactions with treatment conditions



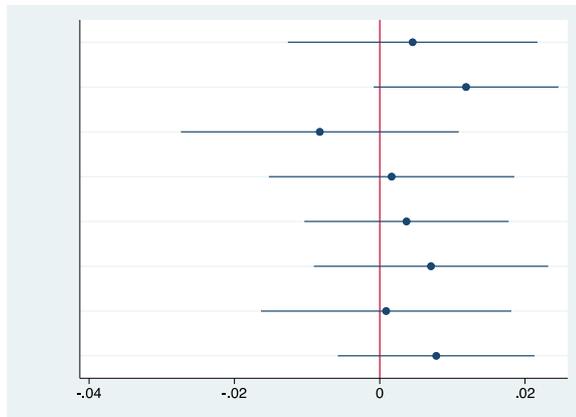
(a) Race (White)



(b) Partisanship



(c) Education



(d) Proportion of immigrants

6. Conclusion

In this study, we examined how exposure to negative and positive information about immigrants affects people's attitude toward immigration. Previous studies on the group threat theory emphasize that perceived fear exerts a negative influence on people's attitudes toward immigrants. However, a substantial number of empirical studies have shown that immigrants also benefit the host society in the areas of economy, culture, welfare, and crime rate. Few studies have examined the effects of these benefits on natives' attitude to immigration, especially in comparison with the effects of threats. This study advances the group threat theory by contrasting the effects of benefits with those of threats.

There are three main findings from the results of this study. First, exposure to positive information about immigrants mitigated participant's negative attitude toward immigration, while exposure to negative information had no impact. Second, the effects of exposure to positive information were not modified by partisanship, race, education, and exposure to

immigrants. Third, the effect of exposure to information about non-economic issues was greater than that of exposure to information about economic issues.

These results were not consistent with our hypotheses. Based on the risk aversion theory, which predicts that people prefer to avoid losses than acquiring equivalent gains, we expected that exposure to threat information would have a stronger effect on participants' attitude to immigration than exposure to benefit information. However, the risk aversion theory cannot explain our results: exposure to benefit information exerted a greater impact on participants' attitude toward immigration than exposure to threat information. This leaves us with two puzzles. Why was the threat information in our experiment not influential? And why was benefit information more influential than threat information? A possible answer to the first question is a methodological failure in our experiment (e.g., our priming stimuli was too weak). Yet, exposure to benefit information was influential, and the strength of the stimuli was very similar between the threat and benefit conditions, as we only changed a few words in the vignettes.

Another answer might be that the information contained in the threat-framed vignettes is already well-known to many Americans. According to Zaller's one-sided information flow model (1992), the extent to which a person changes attitudes depends on the intensity and familiarity of information, and exposure to pre-existing knowledge does not change people's attitudes. We speculate that the benefit information about immigrants was new information for many participants, and thus it was more likely to change their attitudes. Indeed, in the political context of the European Union, Goodwin, Hix and Pickup (2018) showed that relatively new information (pro-EU) exerts stronger effects on people's attitudes toward Brexit than obsolete information (anti-EU). Media also tends to emphasize threats posed by immigrants more frequently than their positive impacts (Farris & Silber Mohamed, 2018), and thus the benefit information might appear new for natives.

The novelty of the benefit information can also explain its invariant effects found among participants. The effects of the benefit information did not vary depending on partisanship, education, race, and residential area. This may seem to contradict previous studies, which have shown that reactions to threats depend on one's sensitivity and vulnerability. However, the outcome of our study could be because the benefit information was new for all participants, regardless of their demographic attributes. Positive information about immigrants appear to be especially impactful for highly educated people, who tend to quickly grasp novel information. However, they are less likely to change their attitudes if an issue receives very limited attention from media (Johansen & Joslyn, 2008). Thus, limited

media coverage on the positive side of immigrants might have led them to be more sensitive to the information about benefits of immigration.

Our findings also show that information about non-economic conditions was more influential on participants' attitude than information about economic conditions. This result is consistent with the one-sided information flow model. Gallup Poll has shown that a large number of Americans think immigrants help the economy rather than hurt it (2017), while the positive impacts on other fields (welfare, culture, and security) are not well-received (2019). Thus, information on economic benefits is already relatively well-known and, thus, the effects sizes were small, while the information on the other benefits was relatively new for participants and, thus, the effect sizes were large.

Finally, the results of our study provide some insight on how we can improve intergroup relations. Most studies on prejudice-reduction have pointed out the importance of diversity training and education, as well as intergroup interactions (Paluck & Green, 2009). However, this study suggests a new strategy to improve natives' attitudes toward immigration: promoting positive information about the benefits brought by immigrants. Immigrants indeed provide various benefits to the host society, which tend to be neglected among natives. We believe that effectively delivering such information to natives can help them reduce prejudice and improve intergroup relations in the host society.

References

- Arends-Tóth, J., & Vijver, F. J. V. D. (2003). Multiculturalism and acculturation: views of Dutch and Turkish–Dutch. *European Journal of Social Psychology, 33*(2), 249-266.
- Akresh, I. R. (2007). Contexts of English language use among immigrants to the United States. *International Migration Review, 41*(4), 930-955.
- Alba, R., Logan, J., Lutz, A., & Stults, B. (2002). Only English by the third generation? Loss and preservation of the mother tongue among the grandchildren of contemporary immigrants. *Demography, 39*(3), 467-484.
- Aubry, A., Burzyński, M., & Docquier, F. (2016). The welfare impact of global migration in OECD countries. *Journal of International Economics, 101*, 1-21.
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of general psychology, 5*(4), 323-370.
- Bell, B., Fasani, F., & Machin, S. (2013). Crime and immigration: Evidence from large immigrant waves. *Review of Economics and statistics, 21*(3), 1278-1290.
- Betz HG, Johnson C. 2004. Against the current—stemming the tide: the nostalgic ideology of the contemporary radical populist right. *J. Polit. Ideol. 9*(3):311–27
- Borjas, G. J. (2003). The labor demand curve is downward sloping: Reexamining the impact of immigration on the labor market. *The Quarterly Journal of Economics, 118*: 1335-1374.
- Bove, V., & Böhmelt, T. (2016). Does immigration induce terrorism?. *The Journal of Politics, 78*(2), 572-588.
- Butcher, K. F., & Piehl, A. M. (2007). Why are Immigrants' Incarceration Rates so Low? Evidence on Selective Immigration, Deterrence, and Deportation." NBER Working Paper No. 13229. Retrieved March 1, 2019 (<https://www.nber.org/papers/w13229>).
- Canetti-Nisim, D., Ariely, G., & Halperin, E. (2008). Life, pocketbook, or culture: The role of perceived security threats in promoting exclusionist political attitudes toward minorities in Israel. *Political Research Quarterly, 61*(1): 90-103.
- Card, D. (2005). Is the new immigration really so bad?. *The Economic Journal, 115*(507), F300-F323.
- Charnysh, V. (2019). Diversity, Institutions, and Economic Outcomes: Post-WWII Displacement in Poland, 1–19. <http://doi.org/10.1017/S0003055419000042>

- d'Albis, H., Boubtane, E., & Coulibaly, D. (2018). Macroeconomic evidence suggests that asylum seekers are not a “burden” for Western European countries. *Science advances*, 4(6), eaaq0883.
- de Koster, W., Achterberg, P., & van der Waal, J. (2012). The new right and the welfare state: The electoral relevance of welfare chauvinism and welfare populism in the Netherlands. *International Political Science Review*, 34(1), 3–20.
- De Martino, B., Camerer, C. F., & Adolphs, R. (2010). Amygdala damage eliminates monetary loss aversion. *Proceedings of the National Academy of Sciences*, 107(8), 3788-3792.
- De New, J. P., & Zimmermann, K. F. (1994). Native wage impacts of foreign labor: a random effects panel analysis. *Journal of population economics*, 7(2), 177-192.
- Dustmann, C., & Frattini, T. (2014). The fiscal effects of immigration to the UK. *The Economic Journal*, 124: F593-F643.
- Enos, R. D. (2016). What the demolition of public housing teaches us about the impact of racial threat on political behavior. *American Journal of Political Science*, 60(1): 123-142.
- Esses, V. M., Dovidio, J. F., Jackson, L. M., & Armstrong, T. L. (2001). The Immigration Dilemma: The Role of Perceived Group Competition, Ethnic Prejudice, and National Identity. *Journal of Social Issues*, 57(3), 389–412.
- Farris, E. M., & Silber Mohamed, H. (2018). Picturing immigration: how the media criminalizes immigrants. *Politics, Groups, and Identities*, 6(4), 814-824.
- Fitzgerald, J., Curtis, K. A., & Corliss, C. L. (2012). Anxious publics: Worries about crime and immigration. *Comparative Political Studies*, 45: 477-506.
- Gallup (2017). “More Americans Say Immigrants Help Rather Than Hurt Economy” Retrieved from <https://news.gallup.com/poll/213152/americans-say-immigrants-help-rather-hurt-economy.aspx>. Accessed on March 14 2019
- Gallup (2019). “Immigration.” Retrieved from <https://news.gallup.com/poll/1660/immigration.aspx>. Accessed on March 14 2019.
- Goodwin, M., Hix, S., & Pickup, M. (2018). For and against Brexit: a survey experiment of the impact of campaign effects on public attitudes toward EU membership. *British Journal of Political Science*, 1-15.

- Hainmueller, J., & Hiscox, M. J. (2010). Attitudes toward highly skilled and low-skilled immigration: Evidence from a survey experiment. *American Political Science Review*, 104: 61-84.
- Hainmueller, J., & Hopkins, D. J. (2015). The hidden American immigration consensus: A conjoint analysis of attitudes toward immigrants. *American Journal of Political Science*, 59(3), 529-548.
- Hansen, M. F., Schultz-Nielsen, M. L., & Tranæs, T. (2017). The fiscal impact of immigration to welfare states of the Scandinavian type. *Journal of Population Economics*, 30(3), 925-952.
- Hjerm, M., & Nagayoshi, K. (2016). The composition of the minority population as a threat: Can real economic and cultural threats explain xenophobia? *International Sociology*, 26(266), 815–843.
- Hooghe, M., & De Vroome, T. (2016). The relation between ethnic diversity and fear of crime: An analysis of police records and survey data in Belgian communities. *International Journal of Intercultural Relations*, 50, 66-75.
- Hopkins, D. J. (2010). Politicized places: Explaining where and when immigrants provoke local opposition. *American political science review*, 104(1), 40-60.
- Igarashi, A. (2018). Territorial Conflicts and Japanese Attitudes Towards East Asian Countries: Natural Experiments with Foreigners' Landings on Disputed Islands. *Political Psychology*, 39(4), 977-992.
- Ivlevs, A., & Veliziotis, M. (2018). Local-level immigration and life satisfaction: The EU enlargement experience in England and Wales. *Environment and Planning A: Economy and Space*, 50(1), 175-193.
- Johansen, M. S., & Joslyn, M. R. (2008). Political persuasion during times of crisis: the effects of education and news media on citizens' factual information about Iraq. *Journalism & Mass Communication Quarterly*, 85(3), 591-608.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decisions under risk. *Econometrica*, 47: 263-291.
- Kermer, D. A., Driver-Linn, E., Wilson, T. D., & Gilbert, D. T. (2006). Loss aversion is an affective forecasting error. *Psychological science*, 17(8), 649-653.
- Lancee, B., & Pardos-Prado, S. (2013). Group conflict theory in a longitudinal perspective: Analyzing the dynamic side of ethnic competition. *International Migration Review*, 47(1): 106-131.

- Legewie, J. (2013). Terrorist events and attitudes toward immigrants: A natural experiment. *American journal of sociology*, *118*(5), 1199-1245.
- Major, B., Blodorn, A., & Major Blascovich, G. (2018). The threat of increasing diversity: Why many White Americans support Trump in the 2016 presidential election. *Group Processes & Intergroup Relations*, *21*(6), 931-940.
- Maliepaard, M., & Alba, R. (2016). Cultural integration in the Muslim second generation in the Netherlands: The case of gender ideology. *International migration review*, *50*(1), 70-94.
- Martinsen, D. S., & Pons Rotger, G. (2017). The fiscal impact of EU immigration on the tax-financed welfare state: Testing the 'welfare burden' thesis. *European Union Politics*, *18*(4), 620-639.
- Mastrobuoni, G., & Pinotti, P. (2015). Legal status and the criminal activity of immigrants. *American Economic Journal: Applied Economics*, *7*(2), 175-206.
- Nannestad, P. (2007). Immigration and welfare states: A survey of 15 years of research. *European Journal of Political Economy*, *23*(2), 512-532.
- Newman, B. J. (2014). Unfamiliar others: Contact with unassimilated immigrants and public support for restrictive immigration policy. *International Journal of Public Opinion Research*, *27*(2), 197-219.
- Norris, P., & Inglehart, R. F. (2012). Muslim integration into Western cultures: Between origins and destinations. *Political Studies*, *60*(2), 228-251.
- Nunziata, L. (2015). Immigration and crime: evidence from victimization data. *Journal of Population Economics*, *28*(3), 697-736.
- Ousey, G. C., & Kubrin, C. E. (2009). Exploring the connection between immigration and violent crime rates in US cities, 1980–2000. *Social Problems*, *56*: 447-473.
- Ottaviano, G. I., & Peri, G. (2012). Rethinking the effect of immigration on wages. *Journal of the European Economic Association*, *10*: 152-197.
- Paluck, E. L., & Green, D. P. (2009). Prejudice reduction: What works? A review and assessment of research and practice. *Annual review of psychology*, *60*, 339-367.
- Pardos-Prado, S., & Xena, C. (2018). Skill Specificity and Attitudes toward Immigration. *American Journal of Political Science*.
- Peri, G. (2012). The effect of immigration on productivity: Evidence from US states. *Review of Economics and Statistics*, *94*(1), 348-358.

- Piopiunik, M., & Ruhose, J. (2017). Immigration, regional conditions, and crime: Evidence from an allocation policy in Germany. *European Economic Review*, 92, 258-282.
- Pyszczynski, T., Solomon, S., & Greenberg, J. (2015). Thirty years of terror management theory: From genesis to revelation. *Advances in experimental social psychology*, 52: 1-70.
- Quillian, L. (1995). Prejudice as a response to perceived group threat: Population composition and anti-immigrant and racial prejudice in Europe. *American Sociological Review*, 60: 586-611.
- Roblain, A., Azzi, A., & Licata, L. (2016). Why do majority members prefer immigrants who adopt the host culture? The role of perceived identification with the host nation. *International Journal of Intercultural Relations*, 55, 44-54.
- Röder, A., & Mühlau, P. (2014). Are they acculturating? Europe's immigrants and gender egalitarianism. *Social Forces*, 92(3), 899-928.
- Ruist, J. (2015). The fiscal cost of refugee immigration: the example of Sweden. *Population and Development Review*, 41(4), 567-581.
- Schlueter, E., Schmidt, P., & Wagner, U. (2008). Disentangling the causal relations of perceived group threat and outgroup derogation: Cross-national evidence from German and Russian panel surveys. *European Sociological Review*, 24(5): 567-581.
- Semyonov, M., Gorodzeisky, A., & Glikman, A. (2012). Neighborhood ethnic composition and resident perceptions of safety in European countries. *Social Problems*, 59(1), 117-135.
- Sniderman, P. M., & Hagendoorn, L. (2007). *When Ways of Life Collide: Multiculturalism and its Discontents in the Netherlands*. Princeton University Press.
- Sniderman, P. M., Hagendoorn, L., & Prior, M. (2004). Predisposing factors and situational triggers: Exclusionary reactions to immigrant minorities. *American Political Science Review*, 98(1): 35-49.
- Spenkuch, J. L. (2013). Understanding the impact of immigration on crime. *American law and economics review*, 16(1), 177-219.
- Stansfield, R. (2016). Reevaluating the effect of recent immigration on crime: estimating the impact of change in discrete migration flows to the United Kingdom following EU accession. *Crime & Delinquency*, 62(11), 1426-1447.

- Stephan, C. W., & Stephan, W. S. (2000). An integrated threat theory of prejudice. In *Reducing Prejudice and Discrimination* by Oskamp, S. (Eds.), 33-56. London: Psychology Press.
- Stephan, W. G., Renfro, C. L., Esses, V. M., Stephan, C. W., & Martin, T. (2005). The effects of feeling threatened on attitudes toward immigrants. *International Journal of Intercultural Relations*, 29(1), 1-19.
- Stowell, J. I., Messner, S. F., McGeever, K. F., & Raffalovich, L. E. (2009). Immigration and the recent violent crime drop in the United States: A pooled, cross-sectional time-series analysis of metropolitan areas. *Criminology*, 47(3), 889-928.
- Tajfel, H. (Ed.). (1978). *Differentiation Between Social Groups*. London: Academic Press.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In *The Social Psychology of Intergroup Relations* by Austin, W. G. & Worchel, S. (Eds.), 33-47. Monterey: Brooks-Cole.
- Tanaka, R., Farre, L., & Ortega, F. (2018). Immigration, assimilation, and the future of public education. *European Journal of Political Economy*, 52, 141-165.
- Tir, J., & Singh, S. P. (2015). Get off my lawn. *Journal of Peace Research*, 52, 478-491.
- Yechiam, E., Telpaz, A., & Hochman, G. (2014). The complaint bias in subjective evaluations of incentives. *Decision*, 1(2), 147.
- Vigdor, J. (2015). The civic and cultural assimilation of immigrants to the United States. *The Economics of Immigration: Market-Based Approaches, Social Science, and Public Policy*. Oxford University Press.

Supplemental Information for
“The Effects of Negative and Positive Information on Attitudes toward Immigration”

1. Experimental Stimuli

Treatments 1 and 2–Economic threats and benefits vignettes

Immigrants [Take Americans’ Jobs Away/Create New Jobs], Study Shows

A new study finds that the growing number of immigrants to the U.S. has [taken the jobs of Americans away / helped create new jobs], according to the American Immigrant Research Group. The findings are based on data from the American Immigrant Social Survey, collected biannually from 1945 to last year.

The research finds that the growth of immigrants results in [the American’s loss of jobs, with immigrants taking these positions instead / the creation of new jobs, which increases the employment of Americans]. The group leader of the research, Michael Miller, said “this finding is important for our current society, and we need to continue this kind of research to gain further understanding of the impact of sociodemographic changes on American society.”

Treatments 3 and 4–Welfare threats and benefits vignettes

Immigrants [Increase Welfare Burden/Decrease Welfare Burden], Study Shows

A new study finds that the growing number of immigrants to the U.S. has [decreased the welfare burden on taxpayers / increased the welfare burden on taxpayers], according to the American Immigrant Research Group. The findings are based on data from the American Immigrant Social Survey, collected biannually from 1945 to last year.

The research finds that [immigrants in the U.S. rely on welfare more than Americans do, and consequently the growth of immigrants results in an increased welfare burden for Americans / immigrants in the U.S. rely on welfare less than Americans do, and consequently the growth of immigrants results in a decreased welfare burden for Americans]. The group leader of the research, Michael Miller, said “this finding is important for our current society, and we need to continue this kind of research to gain further understanding of the impact of sociodemographic changes on American society.”

Treatments 5 and 6–Cultural threats and benefits vignettes

Immigrants [Undermine American Culture/Enrich American Culture], Study Shows

A new study finds that the growing number of immigrants to the U.S. has [undermined the American cultures and values / enriched American cultures and values], according to the American Immigrant Research Group. The findings are based on data from the American Immigrant Social Survey, collected biannually from 1945 to last year.

The research finds that [immigrants do not learn English, oppose American values, and weaken American culture / immigrants learn English, adopt American values, and strengthen American culture]. The group leader of the research, Michael Miller, said “this finding is important for our current society, and we need to continue this kind of research to gain further understanding of the impact of sociodemographic changes on American society.”

Treatments 7 and 8–Security threats and benefits vignettes

Immigrants [Increase Crime Rate/Decrease Crime Rate], Study shows

A new study finds that the growing number of immigrants to the U.S. has [increased the crime rate / decreased the crime rate], according to the American Immigrant Research Group. The findings are based on data from the American Immigrant Social Survey, collected biannually from 1945 to last year.

The research finds that [immigrants tend to commit crimes more frequently than Americans do, and consequently the growth of immigrants results in an increased crime rate in the U.S. / immigrants tend to maintain close family ties and create communities that bind people together, and consequently the growth of immigrants results in a decreased crime rate in the U.S.]. The group leader of the research, Michael Miller, said “this finding is important for our current society, and we need to continue this kind of research to gain further understanding of the impact of sociodemographic changes on American society.”

2. Debriefing statement

At the end of our survey, we informed participants about the purpose of the study. Our debriefing statement is as follows:

“One of our questions aims to examine (1) how potential threats posed by immigrants influence people’s attitudes toward them, and (2) whether such an effect varies across the types of threats, such as economic, cultural, and safety threats.

In order to assess these two factors, we manipulated the content of newspaper article about immigration. For instance, some of you were shown an article arguing that the growing number of immigrants increases/decreases the unemployment rate. In a similar vein, we presented immigrants’ positive or negative influence on the crime rate and culture.

However, the articles include some deceptions: American Immigrant Research Group, its leader Michael Miller, and the American Immigrant Social Survey, do not exist. Indeed, researchers have tried to explore immigrants’ various impacts on the society, but previous studies have presented both positive and negative results. For example, immigrants are said to increase and also decrease unemployment rate and income (e.g., Borjas, 2003; d’Albis, Boubtane, & Coulibaly, 2018; Dustmann & Frattini, 2014; Ottaviano, & Peri, 2012).

We appreciate your participation and your contribution to this research. Please proceed to the next page to complete the survey.”

3. Demographic statistics

Table A1. Demographic statistics

	Mean (SD)
Attitude toward immigration	2.86 (1.34)
Age	47.85 (16.93)
Male	53.89%
Female	46.11%
Partisanship	
Democrat	39.84%
Republican	28.89%
Independent	27.37%
Other	3.90%
Education	
Junior high	20.95%
High school	30.87%
College	32.91%
University	15.27%
White	70.57%
Immigrant proportion	22.81% (11.76)

SD = Standard Deviation