

See no Spanish: language, local context, and attitudes toward immigration[†]

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Explanations of Americans' attitudes toward immigration emphasize threats to national identity and culture. However, we do not know the specific sources of cultural threat or whether they operate locally. Native-born residents commonly voice concerns about the prevalence of Spanish, suggesting that foreign languages might be one such source of threat. This article uses survey experiments to provide one of the first causal tests of the impact of written Spanish on Americans' immigration attitudes. One experiment ($N=351$) was conducted online with a nationally representative sample, while a second was embedded in an exit poll ($N=902$). The experiments show that Spanish has differential impacts depending on Americans' prior contact with it. Among those who hear Spanish frequently in day-to-day life, seeing written Spanish induces anti-immigration attitudes. These findings suggest that language can foster cultural threat, and they highlight a mechanism through which local encounters can be threatening.

Keywords: immigration; Spanish; inter-group contact; survey experiments; exit polling

Introduction

In recent years, English-only laws have been debated in jurisdictions from Hazleton, Pennsylvania (2006) to the State of Arizona (2005). These debates reflect growing diversity and immigrant dispersion and raise questions about whether day-to-day exposure to Spanish influences native-born Americans' attitudes toward immigration. Within political science, one prominent set of explanations for anti-immigration views attributes them to concerns about national identity and culture (Citrin et al. 1997; Sniderman, Hagendoorn, and Prior 2004; Schildkraut 2005; Sides and Citrin 2007; Brader, Valentino, and Suhay 2008; Newman, Hartman, and Taber 2012, forthcoming; Valentino, Brader, and Jardina 2012). But this theoretical perspective raises a yet unanswered question: What specific aspects of immigrants' cultures or identities produce threatened responses? This paper explores the impact of the Spanish language on Americans' attitudes toward immigration using two survey experiments at both the national and local levels.

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Theories of inter-group contact (Allport 1954; Pettigrew 1998; Welch et al. 2001; Lee, Farrell, and Link 2004; Tropp and Pettigrew 2005) suggest that encounters between different ethnic or racial groups can induce positive inter-group attitudes when properly structured. By contrast, theories of inter-group threat suggest that residential proximity can induce prejudice and competition over resources (Key 1949; Blalock 1967; Quillian 1996; Taylor 1998; Cain, Citrin, and Wong 2000; Oliver and Mendelberg 2000; Gay 2006; Dancygier 2010; Rudolph and Popp 2010). Theoretically, our paper contributes to past research by highlighting the attitudinal mechanisms that complicate contact and underpin inter-group threat, identifying one role of personal experience in opinion formation.

Empirically, we investigate whether language influences the attitudes that emerge from encounters between groups, perhaps by heightening threatened responses. To the extent that seeing or hearing Spanish influences political attitudes, it is likely because Spanish operates as a cue or prime, increasing the accessibility of certain considerations in people's minds (Zaller 1992; Miller and Krosnick 2000; Chong and Druckman 2007; Druckman et al. 2010). Yet it is not clear whether exposure to Spanish will have a stronger impact on those who have prior exposure to the language or those who do not. Does Spanish generate concern because of its unfamiliarity or because it is all too familiar?

In the second section, this paper develops hypotheses by drawing on research on immigration attitudes, public opinion, inter-group contact, and inter-group threat. The third section then provides an experimental test of the influence of seeing Spanish on immigration attitudes using a nationally representative sample of 351 American adults. The survey includes novel questions about respondents' contact with Spanish, allowing us to avoid the common assumption of uniform exposure within a neighborhood. The analyses demonstrate that seeing Spanish-language text has a more negative impact on those who regularly hear Spanish in their daily lives, as compared to those who rarely encounter it.¹ To confirm these findings, we embedded an additional Spanish-language experiment in an exit poll conducted in two heavily immigrant communities in Massachusetts, as discussed in the fourth section. This exit poll experiment finds that in two places where contact with foreign languages was high, seeing written Spanish reduces support for immigration markedly among Democratic voters. Ceiling effects likely prevent a similar treatment effect among Republican voters, who overwhelmingly support decreased immigration even without the Spanish cue.

Unlike cues in everyday life, the Spanish language manipulations in our experiments were quite subtle, and the use of Spanish was by researchers rather than politicians. These factors suggest that the effects of Spanish detailed here are potentially a lower bound. Since the 2008 Democratic presidential primary, which included the first-ever Spanish-language debate in a presidential race, Spanish-language outreach has increased markedly. Indeed, funds devoted to Spanish-language advertising grew eightfold between the 2008 and 2012 presidential campaigns (Kantar Media 2012). Our results suggest that politicians' use of Spanish may heighten anti-immigration sentiment among some constituencies, including those who encounter the language in day-to-day life. These implications are explored in the last section.

Theory: Spanish as a cultural threat

Recent scholarship on attitudes toward immigration has investigated the extent to which immigration attitudes are rooted in economic versus cultural threats (Sniderman, Hagendoorn, and Prior 2004; Schildkraut 2005; Mayda 2006; Sides and Citrin 2007). Yet in framing the problem as "economics versus culture," we have devoted less attention to the specific aspects of immigrants' cultures that are fostering threat (but see Schildkraut 2001, 2005; Newman, Hartman, and Taber 2012). This section first details research showing how

immigration attitudes are susceptible to cultural cues, which might prime religious differences, ethnic differences, language differences, or a host of other inter-group distinctions. It then proceeds inductively, drawing clues about language threat from past research to arrive at two hypotheses: the Spanish language operates as a potent cue on immigration-related issues, and cues about immigration interact with respondents' personal experiences to trigger pro- or anti-immigration sentiment.

Cues on immigration

For the purposes of this paper, a cue is a "piece of information that allows individuals to make inferences without drawing on more detailed knowledge" (Druckman et al. 2010, 137). In other words, cues are information shortcuts that make certain considerations more accessible in the minds of those exposed. Cues are typically intentional appeals by political elites designed to influence opinions, and they are often conveyed through the media. But not always: they can also be unintentional signals, such as the use of Spanish.

Previous research has considered how specific cultural cues influence attitudes toward immigration or political figures, but has not yet reached a consensus on the impact of such cues (Sniderman, Hagendoorn, and Prior 2004; Junn and Masuoka 2007; Barreto et al. 2008; Brader, Valentino, and Suhay 2008; Schildkraut 2009; Newman, Hartman, and Taber 2012). One experimental study concludes that explicitly identifying immigrants as members of an ethnic out-group induces anxiety and leads to more negative responses to immigration (Brader, Valentino, and Suhay 2008); a second shows that the impact of immigration-related rhetoric on information-seeking hinges on one's ethnic or racial sub-group (Albertson and Gadarian, [forthcoming](#)). Three other studies focus on language, showing that bilingual advertising can have a negative impact on the sponsoring candidate (Barreto, Merolla, and Ramírez 2007), especially among blacks (Barreto et al. 2008), and even brief online encounters with Spanish can induce threat (Newman, Hartman, and Taber 2012, [forthcoming](#)). In a field experiment, Enos (2013) finds that the mere presence of Spanish-speaking Latinos at train stations can increase anti-immigration attitudes. However, another experimental study finds mostly positive impacts when respondents see photos of Asian-American or Latino families (Junn and Masuoka 2007). This body of research suggests that the impact of these cues may vary by context, making additional experimentation valuable.

Spanish as a cultural threat

Among the potential sources of cultural threat, language differences are especially salient, so exposure to written Spanish might cue negative immigration-related attitudes (Zolberg and Woon 1999). Language barriers serve as an obstacle to communication, exacerbating suspicion and misunderstanding. Spanish might also produce an emotional response, perhaps generating anxiety and information-seeking (Brader, Valentino, and Suhay 2008; Valentino et al. 2008). More generally, the presence of foreign languages raises concerns among some Americans that Latino immigrants' retention of Spanish and potential failure to assimilate threatens American national unity (Huntington 2004). Similarly, other researchers have confirmed the relationship between foreign language use and Americans' conceptions of national identity (Citrin et al. 2001; Schildkraut 2005; Paxton 2006), as well as the contentious politics surrounding state-level language policy (Schildkraut 2001). Among the set of cues related to immigration, the Spanish language is potentially powerful. The resulting hypothesis is straightforward: exposure to Spanish should prime concerns about assimilation and cultural identity, inducing anti-immigrant attitudes.

Contact, conflict, and prior experience

It is plausible that these complaints about Spanish reflect the initial uncertainty and unease following the arrival of newcomers (Horton 1995; Green, Strolovitch, and Wong 1998). Over time, interactions with members of other groups could reduce stereotypes and inter-group animosity, as theories of inter-group contact suggest (Allport 1954; Pettigrew 1998; Stein, Post, and Rinden 2000; Welch et al. 2001; Lee, Farrell, and Link 2004; Tropp and Pettigrew 2005). However, contact is more likely to have positive effects under specific conditions: when the groups are equal in status, when they share common goals, when they have the support of local authorities or institutions, and when the situation requires inter-group cooperation (Allport 1954). For monolingual Spanish speakers, particularly in new immigrant destinations, achieving all of these conditions amidst language barriers is unlikely. The contact between Spanish speakers and English speakers might be superficial, frustrating, and even stereotype-enhancing.

Thus theories of local inter-group conflict provide a better fit, as they expect a negative attitudinal shift resulting from living alongside members of other ethnic or racial groups (Cain, Citrin, and Wong 2000; Oliver and Mendelberg 2000; Gay 2006; Dancygier 2010). Specifically, proximity can trigger negative attitudes toward neighboring groups, either through heightening prejudice (Taylor 1998), decreasing trust (Putnam 2007; Rudolph and Popp 2010), increasing competition for economic resources, or increasing political competition (Key 1949; Dancygier 2010). Yet with few exceptions (Fossett and Kiecolt 1989; Wong 2007), this body of scholarship has not considered the specific attitudinal mechanisms through which context might influence attitudes. In fact, these studies rarely measure respondents' actual exposure to different groups or to specific inter-group experiences.

Drawing on public opinion research, we focus on cues as a mechanism underlying theories of inter-group threat. Cues are thought to influence reported attitudes by making certain considerations more available in people's minds (Zaller 1992; Miller and Krosnick 2000; Chong and Druckman 2007). If that is true, people's initial exposures to Spanish might not have much of an impact, as there are not yet many negative considerations to access. At first, people might not recognize the language, let alone its political or social implications. Yet as people encounter immigrants in their day-to-day lives, they begin to store associations which can be made accessible by cues. Those associations might consist of memories from many sources, including everything from discussions about the influx of Spanish speakers at a neighborhood school to disorientation at seeing billboards in an unfamiliar language. Alternatively, regular encounters with immigrants could foster concerns about scarce resources or threats to group status, as the group conflict theory would predict. Irrespective of the specific mechanism, the second hypothesis holds that the influence of the Spanish cue will grow over time, as it taps into pre-existing concerns related to immigration. As such, the influence of a given exposure to Spanish will depend crucially on the quality of someone's prior exposure to the language.

The Knowledge Networks language experiment

To test these possibilities, we conducted an experiment that exposed respondents with varying prior exposures to written Spanish. Experiments are ideally suited to addressing this question, both because of their advantages for causal inference and because they enable the use of subtle cues to identify attitudinal change in a manner that can reduce social desirability bias (Morton and Williams 2010; Druckman et al. 2011). In these analyses, we investigate both main effects and effects conditional on prior experience with Spanish, which are both theoretically motivated and causally prior to the treatment itself. In contrast to previous work, which relied on ethno-racial context as a proxy for contact, we ask respondents prior to the experimental treatment about

contact with Latino immigrants. Specifically, respondents were asked: “in your day-to-day life, how frequently do you hear Spanish spoken?” Five response options ranged from “never or almost never” to “every day.”² Certainly, hearing Spanish is not equivalent to contact with Latino immigrants, as respondents could encounter English-speaking Latino immigrants or could see Latino immigrants regularly without necessarily hearing spoken Spanish. Nonetheless, by employing this measure of self-reported contact with the Spanish language, we move beyond the assumption that spatial proximity equates with inter-group exposure.

Since similar self-reported measures of contact have not been used previously in an experimental setting – or indeed in the vast majority of studies of inter-group conflict – it is worth considering what these questions are measuring. The threat to validity is that they are potentially infused with respondents’ attitudes on immigration, as people differentially report their exposure to Spanish. Yet in multiple data sets, we see no evidence of any relationships between self-reported contact and immigration-related attitudes. In our Internet survey, for the control group that saw no Spanish, the Pearson’s correlation between the anti-immigration index and the frequency of hearing Spanish is $-.02$. For a separate question measuring respondents’ conversations with Latino immigrants, it is $-.03$.³ Also, in the data set as a whole, hearing Spanish frequently is not strongly related to Democratic partisanship (correlation = $-.05$) or conservative ideology ($-.05$). It is slightly related to income (.10) and education (.11), but not strongly so and not in a direction that would lead those with more exposure to Spanish to be more threatened by immigrants. Those who report hearing Spanish frequently do live in more Hispanic ZIP codes (.26), see Latinos frequently (.66), and talk to Latino immigrants frequently (.59). The measures of contact behave as we would expect them to, and are not related to ideology or attitudes.

The claim that self-reported exposure is distinctive from immigration-related attitudes is strongly corroborated by a separate analysis of a 2006 national survey conducted by the Pew Research Center for People and the Press and Pew Hispanic Center (2006). Specifically, the survey asked, “how often do you personally come in contact with immigrants who speak little or no English?” For the 1687 respondents who were black or non-Hispanic white, we examined the Pearson’s correlations between responses to this question and attitudes toward immigration and minority groups. Those who encounter immigrants who speak little English are no more likely to support immigration (correlation = $-.008$), to disagree that immigrants take jobs from natives (= $-.03$), to think that immigrants strengthen American society (= $-.01$), or to report positive affect toward Latinos (= $.004$). Nor is self-reported contact correlated with conservative ideology (= $-.001$) or with party identification (= $-.02$). This pattern of consistently null correlations suggests that such measures of self-reported contact are not tapping political predispositions, immigration-related attitudes, authoritarianism, or other attitudinal dimensions.

Thus we can reasonably assume that self-reported contact measures what it purports to measure. From these data alone, it is difficult to know the exact sources of the inter-group contact, although given likely language barriers, we expect much of it to be casual, day-to-day contact outside homes or offices. We hypothesize that those who hear Spanish more frequently are more likely to have pre-existing mental associations, whether memories of interactions or latent fears of competition for scarce resources, that can be made accessible by cues.

The first experiment to test this hypothesis was administered online through Knowledge Networks on a random, national sample of 351 adult respondents, and was part of a larger survey conducted in February 2008. Knowledge Networks initially recruits its panel using random digit dialing, including cell phone users and unlisted numbers. Respondents without internet access are provided with free WebTV and hardware as needed, substantially improving the representation of Americans across demographic groups. Chang and Krosnick (2009) provide a detailed discussion of the Knowledge Networks panel’s accuracy in recovering national benchmarks. In this case, the median respondent was 47 years old with 13 years of education.

Ten percent of respondents were black, 7% were Hispanic, and 6% were born outside the USA. Though researchers often conduct experiments on non-random sub-samples of the population, we are able to use a nationally representative sample which reduces concerns about the generalizability of the results. Among panelists, the response rate (AAPOR RR3) was 62%.⁴

Our respondents fielded several baseline “pre-treatment” questions; a group of 144 respondents was then randomly selected to view a welcoming note in English while 137 saw the same note in English and Spanish. The key virtue of the experimental design relies on effective randomization. If the treatment and control group are randomly assigned, the only systematic difference between the groups should be the treatment itself. Indeed, randomization checks on 12 key covariates (including race, age, gender, and education) indicate only one significant pre-treatment difference across the groups: those exposed to Spanish are more likely to be Democrats ($p = .04$, two-sided test). The results reported below are all confirmed using parametric models which adjust for this covariate imbalance.⁵

Figure 1 presents an image of the bilingual introductory note viewed by the treatment group. The omnibus nature of the survey – and the omnipresence of Spanish-language translations in daily life – likely render the treatment unremarkable. Because the treatment is quite subtle and the written Spanish is not being deployed by a political leader or group, we think of these results as a lower bound which potentially understates the impact of Spanish when used politically. The questions assessing respondents’ contact with Spanish and Latino immigrants came three to five questions prior to the experimental manipulation, eliminating a potential threat to the experiment’s internal validity.

We measured the outcome of interest – attitudes toward immigration – in a variety of ways. After treatment, respondents were asked whether they agreed with a generic statement about threat (Sniderman, Hagendoorn, and Prior 2004): “These days, I am afraid that the American

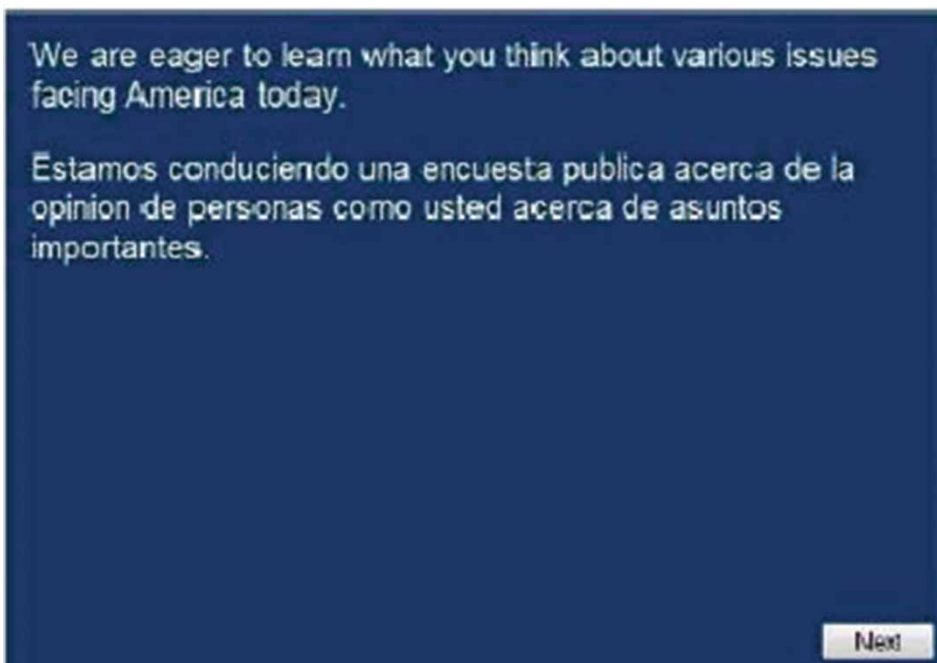


Figure 1. Screenshot of the introductory note for respondents assigned to treatment group. Source: Knowledge Networks Language Experiment (2008).

way of life is threatened.” There is nothing specific to immigration in this statement, and respondents could reply with reference to economic, social, or cultural threats. They were subsequently asked a common question about preferred levels of immigration: “[d]o you think the number of immigrants from foreign countries who are permitted to come to the United States to live should be decreased a lot, decreased a little, left the same, increased a little, or increased a lot?” Responses to this variable are quite skewed, with just under 10% of respondents endorsing increased immigration. We thus focus on a binary indicator of whether the respondent supports decreased immigration, grouping those who wish to leave it as is with those who wish to increase it.⁶ An additional question assessed if respondents agreed that “current and future immigration will threaten the American way of life.” Questions also probed whether the arrival of immigrants would raise taxes or levels of violence and crime. In addition, we create a composite index by adding each of the measures above into an anti-immigration index that weights each equally ($\alpha = .79$). Respondents were also invited to provide open-ended comments, with many mentioning language concerns specifically. Together, these measures capture a range of cultural threats related to immigration.

Treatment effects

What is the impact of seeing a single Spanish sentence early in the survey? On most of the dependent variables, there is no evidence of systematic differences across the full treated and control populations. In fact, for the surveyed population, none of the main effects was significant at the .05 level.⁷ We then examined the hypothesis that seeing Spanish is especially influential among those who encounter it in their day-to-day lives, finding a suggestive pattern in which the 210 respondents who report hearing Spanish frequently express more anti-immigrant attitudes on each measure when exposed to the bilingual treatment. No one result here is overwhelmingly strong, and none reaches statistical significance at the conventional .05 level. But given the modest sample size and the subtlety of the cue, the fact that similar results appear across a variety of measures is suggestive of an underlying relationship. Those who frequently encounter Spanish tend to respond negatively to a sentence written in that language. And that negative response persists for the duration of the survey.⁸

As additional tests of the interaction between prior exposure and Spanish-language cues, we estimated linear models for each of our six dependent variables for the full sample.⁹ The key term in each model is the interaction between the treatment (seeing Spanish) and exposure to Spanish in day-to-day life.¹⁰ We also included lower-order terms for both of those variables and a seven-category scale of partisan identification.¹¹ Overall, we predicted the average response for four hypothetical respondents, defined by whether or not the respondent encounters Spanish in her daily life and whether or not she saw written Spanish in the survey. The fitted models are provided in [Table 1](#) and demonstrate that the interaction term is consistently associated with less favorable immigration attitudes, by a statistically significant margin on four out of six measures.¹²

[Figure 2](#) presents the results of these linear models graphically, illustrating the consistent and typically significant interaction between respondents’ exposure to Spanish and their response to the experimental cue. The p -values reported in [Figure 2](#) correspond to the interaction term in the linear model, and provide formal two-sided tests of whether seeing Spanish has differential impacts based on respondents’ prior exposure to Spanish. It frequently does.

When exposed to Spanish, those who encounter the language rank higher on the anti-immigration index. The coefficient on the interaction term is .35, with a standard error of .15. Specifically, the model predicts that those who hear Spanish every day will score .54 higher on the anti-immigration index, with a 95% confidence interval from -0.06 to 1.12 (two-sided p -value = .08). Given that the anti-immigration index has a mean of 5.00 and a standard deviation of 1.84, this is a sizable impact.

Table 1. OLS models with interaction effects of Spanish treatment and exposure to Spanish on attitudes toward immigration.

Dependent variables	Anti-immigration index	Generic threat	Decrease immigration
Intercept	6.424*** (0.454)	3.650*** (0.257)	0.582 (0.528)
Saw Spanish	-1.213* (0.563)	-0.236 (0.314)	-0.697 (0.665)
Hear Spanish frequently	-0.111 (0.103)	-0.057 (0.058)	0.026 (0.120)
Party ID	-0.246*** (0.051)	-0.157*** (0.029)	-0.168** (0.060)
Saw Spanish × Frequent Exposure	0.350* (0.148)	0.092 (0.083)	0.197 (0.175)
N	281	281	281

Dependent variables	Immigrants threaten	Immigrants raise taxes	Immigrants raise crime
Intercept	3.194*** (0.272)	3.378*** (0.229)	3.393*** (0.234)
Saw Spanish	-0.625 (0.340)	-0.587* (0.286)	-0.625* (0.293)
Hear Spanish frequently	-0.095 (0.062)	-0.017 (0.052)	-0.059 (0.053)
Party ID	-0.113*** (0.031)	-0.119*** (0.026)	-0.109*** (0.027)
Saw Spanish × Frequent Exposure	0.199* (0.090)	0.163* (0.075)	0.194* (0.077)
N	281	281	281

Source: Knowledge Networks Language Experiment (2008).

Note: Standard errors are in parentheses.

*** $p < .001$ (two-tailed test).

** $p < .01$ (two-tailed test).

* $p < .05$ (two-tailed test).

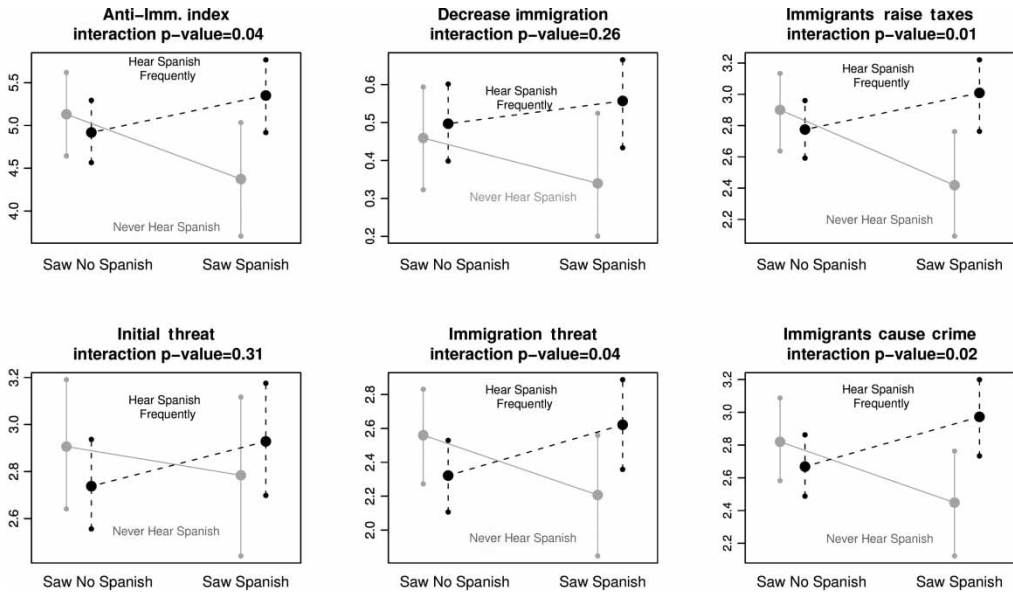


Figure 2. Interaction effects of Spanish treatment and exposure to Spanish on attitudes toward immigration. Source: Knowledge Networks Language Experiment (2008).

These respondents become more threatened by immigration and more likely to think that immigrants cause higher crime and taxes. We thus have initial evidence that written Spanish leads to increased concern about immigration among Americans who hear the language frequently as compared to

those who do not.¹³ When interpreting these results, it is important to remember the earlier observation that at baseline, self-reported exposure to Spanish is entirely unrelated to ideology or immigration attitudes.

Interestingly, [Figure 2](#) also indicates that those who rarely hear Spanish shift their attitudes in the opposite direction. The sight of Spanish-language text clearly brings to mind different considerations based on personal experience. For those who rarely encounter Spanish, the bilingual message may represent a novelty; for those who encounter it frequently, it may prime prior experiences with Spanish or activate fears of competition for scarce resources. In places where Spanish is rarely overheard, it may resonate differently, perhaps cueing positive associations with America's immigrant history. Those who rarely encounter Spanish may not even recognize the foreign language in the cue, offering an additional explanation for the different patterns in [Figure 2](#). Further research could productively investigate how those who rarely encounter Spanish perceive similar written cues.¹⁴

The Everett/Somerville exit poll experiment

The analyses above suggest that people who encounter Spanish frequently respond to a Spanish-language cue more negatively than those who do not. To further probe the impact of Spanish on those who encounter it regularly, and to confirm our findings, we conducted an experiment embedded in an exit poll during the November 2008 presidential election in Everett and Somerville, Massachusetts. In light of the results above, we targeted Everett and Somerville as heavily immigrant areas, where respondents encounter foreign languages frequently.¹⁵ Indeed, exit poll respondents reported hearing Spanish or Portuguese often, with 88% reporting that they did so at least once a week, in contrast to just 59% of respondents in the national survey described above.¹⁶ Thus, we should think of the 902 exit poll respondents as frequently exposed to foreign languages. Appendix Table A1 presents these and other descriptive statistics.

As before, the Spanish cue in the exit poll was quite subtle. Respondents received a one-page, English-language survey fastened to a clipboard. For half the respondents, the top of the survey included a 16-point font sentence under the poll's title that explained in Spanish that a Spanish-language version of the text was on the flip side.¹⁷ The other half of respondents saw no such sentence. An image of the exit poll with the Spanish cue is available in [Figure A1](#) in the Appendix.¹⁸ The survey instrument intentionally emphasized a variety of issues, including vote choice, taxes, the economy, and presidential approval. To measure immigration-related attitudes, the instrument also contained the same standard question about increasing or decreasing levels of immigration. The researchers and 10 assistants administered the exit poll to every n th individual leaving one of four major polling sites in the two cities. Every other respondent received the Spanish treatment.¹⁹ At the site with the lowest response rate, 49% of people who were approached declined to take the survey (AAPOR RR1).²⁰ In the overall sample, randomization checks detected a few covariate imbalances, which we account for in the subsequent analyses.²¹

Treatment effects

To address imbalances and potential cross-site heterogeneity we estimate parametric models with the following covariates: years of education as well as indicators for treated respondents, African Americans, and three of the four polling sites. Here, we see that seeing Spanish text can influence immigration attitudes. The results for the full sample are given in the first column in [Table 2](#). The impact of seeing Spanish is 4.8 percentage points on average, raising the probability a respondent indicates wanting to decrease immigration to 61.8%. The p -value on the hypothesis that the

Table 2. Logistic regression models of support for decreased immigration.

	All respondents	Obama voters
Intercept	1.51 (0.47)	1.19 (0.56)
Site 2	-1.57 (0.20)	-1.56 (0.25)
Site 3	-1.55 (0.34)	-1.18 (0.39)
Site 4	-0.42* (0.21)	-0.34 (0.25)
Black	-1.34 (0.27)	-1.12 (0.30)
Education	-0.08* (0.03)	-0.10* (0.04)
Saw Spanish	0.20 (0.16)	0.48* (0.19)
Degree of freedom	844	659

Source: The 2008 Everett/Somerville exit poll.

Note: Standard errors are in parentheses.

* $p < .05$ (two-tailed test).

impact is greater than zero is .103. The result is suggestive, especially in light of the first experiment, but it is not quite significant.

However, the impact of such cues could be influenced by pre-existing views. If one is already staunchly anti-immigration, ceiling effects might come into play, and the cue might have no impact. In fact, scholars have previously identified ceiling effects as a pervasive influence on attitudes toward race, ethnicity, and immigration (Branton et al. 2007). Scholarship has also shown that in 2008, immigration was especially salient among conservative voters (Knoll, Redlawsk, and Sanborn 2011), suggesting that their views might be less susceptible to movement. Both possibilities make it valuable to explore the treatment effects separately by respondents' prior immigration-related attitudes.

One available proxy for pre-existing views is the vote choice of our respondents. Sixty-seven percent of the 202 McCain voters wanted to see immigration decreased, as opposed to just 26% of Obama voters.²² Thus, we estimated the impact of seeing Spanish only among Obama voters. Of Obama voters who saw Spanish, 29.8% wanted to decrease immigration, while just 22.7% of those who did not see Spanish voiced the same opinion ($p = .02$, one-sided t -test). This result remains significant ($p = .04$) when using the Sequential Bonferroni test to adjust for multiple comparisons.²³ In fact, at all four sites, the Obama voters who saw Spanish are more likely to want reduced immigration.

Still, owing to covariate imbalances, it is valuable to estimate treatment effects conditional on race and education. The second column of Table 2 does just that and shows the strong impact of seeing Spanish on Obama voters' attitudes toward immigration. Consider Obama voters at the fourth site, the Everett Senior Center. The model estimates that 42.2% of those who did not see Spanish would voice anti-immigration attitudes. For those who did see Spanish, the comparable number is 54.1%, producing an estimated treatment effect of over 10 percentage points. The p -value from a t -test that the coefficient is positive is .007, an indication that treatment mattered for this group.²⁴

We confirmed these results by estimating similar models with other covariates, including the respondent's gender, ethnicity, income, age, time in the community, frequency of hearing Spanish or Portuguese, and frequency of talking with immigrants. A model that includes the original covariates as well as the interaction between presidential vote choice and seeing the Spanish exit poll predicts that Obama voters are nine percentage points more likely to support decreasing immigration when exposed to Spanish. It also suggests that McCain voters may move in the opposite direction, although this effect is not significant and could result from the relatively small sample size. In all cases, the effect of seeing Spanish for Obama voters is stable and strong.

Reinforcing the earlier results, we see here that even subtle uses of Spanish by researchers can shape immigration-related attitudes markedly. In other words, cues are not just signals sent by politicians; they can come from languages that people see or hear in their day-to-day lives.

Conclusion

Researchers have long advanced the notion that anti-immigration views stem at least in part from a sense of cultural threat. Past case studies and focus groups have shown that language issues can be potent and divisive, making language a likely source of cultural threat. That view is reinforced here. Among the 238 respondents to the initial survey who provided an open-ended comment, language concerns were the second most common issue raised after questions of immigrant legality. A separate strand of research has considered how people's local contexts shape attitudes toward other groups. This paper synthesizes these two bodies of research to deepen our understanding of cultural threat. Its experiments show that seeing written Spanish has a more negative impact on respondents who regularly encounter Spanish in their day-to-day lives, even though the manipulations were quite subtle.

Theoretically, this finding provides a mechanism for theories of inter-group conflict, which have long been silent on the question of exactly how contexts influence inter-group attitudes. More generally, scholars have sometimes conceived of cues as influencing people who lack personal experience or knowledge on an issue (see also Kinder 1998; Chong and Druckman 2007). But this study provides evidence for the reverse: cues can be powerful when they resonate with day-to-day experiences. In this case at least, cues operate differently when respondents can draw on pre-existing knowledge.

These experiments have limitations, including the subtlety of their cues, the small sample size of the first, the geographically limited sample of the second, and main effects that do not always cross conventional thresholds of statistical significance. We thus see these findings as suggestive of several productive paths for future research. First, at the level of political psychology, additional research might probe the considerations that Spanish makes accessible among those who encounter it daily. Is it priming concerns about local school quality, or more day-to-day experiences such as disorientation at the sight of a Spanish billboard? Second, future work might consider the source of the Spanish cue: do official uses of Spanish by government officials have more of an impact than casual uses by celebrities or neighbors? Third, the sample sizes of Latinos here are prohibitively small, but future research could consider their responses to Spanish. In a related vein, it might study whether respondents' comprehension of Spanish influences their response. Finally, further research could probe whether exposure to other foreign languages elicits threatened responses, or whether Spanish is unique in this respect. Given concerns about terrorism associated with immigrants from the Middle East (Schildkraut 2011), Arabic could be an especially instructive language to test.

These findings also have implications for advocates on the immigration issue. As Barreto et al. (2008) document, the use of Spanish-language appeals in US politics increased markedly in the 2008 presidential election, a trend that escalated in 2012. This paper finds that even subtle uses of Spanish can serve as primes of anti-immigration sentiment among certain sub-groups. When Obama voters in the Massachusetts exit poll were exposed to a single line of Spanish, they became seven percentage points more likely to want to decrease immigration. Effects may be even larger when Spanish is invoked by political figures themselves. It is also conceivable that use of Spanish by authority figures could operate in the opposite direction, serving as an official sanction of out-group acceptance, as the contact theory would suggest (Allport 1954). Such an effect might be especially likely when coming from a public official who shares the respondent's partisanship. Recent research, however, supports our suspicion that our results present a lower

bound and that use of Spanish by politicians can produce a backlash (Barreto et al. 2008). To the extent that political organizers use Spanish, they might undermine support among potential allies. In this way, efforts to bring Latinos into the political mainstream may have the unintended consequence of dampening support for immigration.

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Notes

1. We also show that self-reported exposure to Spanish is not correlated with immigration-related attitudes *ex ante*, a fact which reduces concerns that an alternate moderator is really at work.
2. A separate question asked respondents, "How frequently do you see Hispanic/Latino immigrants in your community?" The two measures have a Pearson's correlation of .66. (We employ the second in robustness checks, but focus on hearing Spanish since it directly measures exposure to the language.) The strong correlation between the questions suggests that the question on hearing Spanish captures actual contact with Latinos rather than hearing Spanish-language television.
3. Certainly, the absence of a correlation between exposure to immigrants and immigration attitudes does not contradict the claim that encountering Spanish can be a negative experience for English-speaking Americans. Instead, it simply indicates that other factors might also be at work in shaping their immigration attitudes, such as selective exposure.
4. The panel recruitment rate (AAPOR RR3) was 23% and the panel profile rate was 57%.
5. While Freedman (2008) raises concerns about the applicability of generalized linear models to experimental data, Green (2009) convincingly dismisses such objections for all but the smallest sample sizes.
6. Unless otherwise noted, all other questions have four response categories.
7. The result is very similar when we use logistic regression conditional on party identification to estimate the treatment effect, a precautionary step given the imbalance on that covariate.
8. Tests for interaction effects with the anti-immigration index confirm that prior exposure to Spanish is not masking the effects of other variables, such as education, income, partisanship, or ideology. The anti-immigration impact is stronger still among those with the most day-to-day exposure to Spanish. We do not observe any notable non-linear impacts.
9. For the binary variable, we used logistic regression; for the others, we used ordinary least squares. There is very little missing data, with only 1.8% of observations removed through list-wise deletion.
10. Seeing Spanish is measured via a binary, 0–1 indicator variable. Prior exposure to Spanish is measured as an ordinal variable ranging from 1 (never exposed to Spanish) to 5 (exposed to Spanish daily).
11. As noted above, we control for partisan identification to address the covariate imbalance. The experimental design precludes the need to control for additional predictors of immigration attitudes, since the treatment and control groups are not systematically different with regard to these characteristics. Nonetheless, if we include other control variables, such as political ideology, race, ethnicity, foreign birthplace, or gender, the results do not change.

12. In addition to the 144 respondents who saw the monolingual welcoming note, 70 respondents saw no welcoming note. If we include these respondents in the control group and include an indicator variable for those who saw no welcoming message, we recover substantively similar results.
13. Using *t*-tests on the sample that does not frequently hear Spanish, we see that those exposed to Spanish are less likely to link immigrants to rising crime ($p = .09$, two-sided test) or to higher taxes ($p = .03$, two-sided test).
14. In interpreting Figure 2, readers should note that prior exposure to Spanish was not randomly assigned, so comparisons within a treatment group have no clear causal interpretation.
15. Everett has a median household income of \$51,333, which almost exactly matches the national figure of \$50,007. It is 33% foreign born. According to the same 2005–2007 American Community Survey data, Somerville’s median household income was \$59,146, and it was 27% foreign born.
16. Since Somerville and Everett are home to large Portuguese and Brazilian immigrant populations, we included mention of Portuguese in our question.
17. In Spanish, the text read, “*Por favor, fíjense que uds. pueden contestar en español al otro lado.*” The sentence means “Please be aware that you can answer in Spanish on the other side.” To maintain realism for Spanish-speaking respondents, the treatment survey included a Spanish translation on the back, while the back of the control survey was blank.
18. The surveys were given to respondents affixed to the clipboard with the English always facing up. Very few respondents ever turned over the survey, and those who did so only after completing it. The treatment effect is characterized as seeing a single line of Spanish. Because the treatment was visible at the top of the survey, all 19 questions should be considered “post-treatment,” although we suspect that seeing Spanish will not influence self-reported income, vote choice or other covariates.
19. The interval n was determined by the researcher at each site based on voter traffic and then fixed. Such randomization is commonly employed in exit polls, and relies on an assumption of no systematic ordering in how voters leave the polling place. The treatment would be confounded, for example, if everyone voted with her spouse and the more conservative partner always exited first. Randomization checks confirm that there were no such problems. Treated respondents were no more or less likely to vote for McCain, for example.
20. There, our exit poll found 72% support for Barack Obama, when in actuality 62% of voters voted for Obama. At the other three sites, we over-estimated Obama’s support by four percentage points, five percentage points, and nine percentage points. National exit polls have seen comparable overstatements of Democratic support in recent years (Edison Media Research and Mitofsky International 2005).
21. Of the eight available covariates, those who received a survey with Spanish were more likely to be Black (16.0% versus 11.3%; $p = .039$ from a two-sided *t*-test). They were also slightly less educated, reporting 14.6 years of education as compared to the control group’s 15.0 years ($p = .024$).
22. Ceiling effects can operate at levels of support or opposition as low as 67% so long as binary immigration attitudes have considerable fundamental variability.
23. Using ANOVA, we confirmed an inter-group difference among Obama voters at $p = .04$.
24. Similarly strong results hold when we condition on self-reported Hispanics or remove the 69 Hispanic Obama voters from the analysis. They hold as well if we estimate a similar model on the full data set with an interaction between the treatment and the respondent’s vote choice. In models of the full data set, 5.6% of respondents are deleted due to missing data.

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Appendix

NOVEMBER 2008 POLL BY RESEARCHERS AT HARVARD AND MIT
Por favor, fíjense que uds. pueden contestar en español al otro lado

This is a voluntary and anonymous exit poll about current events and the election conducted by researchers at a local university. *Please do not write your name on this survey.* This poll is *not* official, and is not affiliated with the Cities of Everett or Somerville or the Board of Elections. Your effort in answering these questions will make sure that the views of residents from (insert town name) are represented in this research. You may decline to answer any or all questions at any point in the survey.

1. For President, who did you vote for? (check one)

<input type="checkbox"/> John McCain (Rep.)	<input type="checkbox"/> Someone else
<input type="checkbox"/> Barack Obama (Dem.)	<input type="checkbox"/> Did not vote
2. On Ballot Question 1, which proposed to end the Massachusetts state personal income tax, how did you vote? (*Please answer even if you did not vote*)

<input type="checkbox"/> Did not vote	<input type="checkbox"/> Voted "No" (not to end the tax)
<input type="checkbox"/> Voted "Yes" (to end the tax)	
3. Which is the worst tax—that is, the one that is the least fair? (check one)

<input type="checkbox"/> State sales tax	<input type="checkbox"/> Federal income tax
<input type="checkbox"/> Local property tax	<input type="checkbox"/> State income tax
	<input type="checkbox"/> Social Security tax

Regardless of how you voted on Ballot Question 1, please tell us if you agree or disagree with the following statements:

4. "The Commonwealth of Massachusetts can reduce its annual spending by 40% without a major impact on services."

<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Somewhat disagree
<input type="checkbox"/> Somewhat agree	<input type="checkbox"/> Strongly disagree
5. "Eliminating the Massachusetts state income tax would lead to large increases in other taxes."

<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Somewhat disagree
<input type="checkbox"/> Somewhat agree	<input type="checkbox"/> Strongly disagree
6. Now thinking about the economy in the country as a whole, would you say that over the past year the nation's economy has been (check one)

<input type="checkbox"/> Much better than normal	<input type="checkbox"/> Worse than normal
<input type="checkbox"/> Better than normal	<input type="checkbox"/> Much worse than normal
7. Do you approve or disapprove of the way George W. Bush is handling the economy over the last year? (check one)

<input type="checkbox"/> Strongly approve	<input type="checkbox"/> Disapprove
<input type="checkbox"/> Approve	<input type="checkbox"/> Strongly disapprove
8. Do you approve or disapprove of the way George W. Bush is handling his job as president? (check one)

<input type="checkbox"/> Strongly approve	<input type="checkbox"/> Disapprove
<input type="checkbox"/> Approve	<input type="checkbox"/> Strongly disapprove

9. Please tell us if you agree or disagree with the following statement: "These days, I am afraid that the American way of life is threatened." (check one)

<input type="checkbox"/> Disagree strongly	<input type="checkbox"/> Agree somewhat
<input type="checkbox"/> Disagree somewhat	<input type="checkbox"/> Agree strongly
10. Do you think the number of immigrants from foreign countries who are permitted to come to the United States to live should be (check one)

<input type="checkbox"/> Increased a lot	<input type="checkbox"/> Left the same
<input type="checkbox"/> Increased a little	<input type="checkbox"/> Decreased a little
	<input type="checkbox"/> Decreased a lot
11. In your day-to-day life, how frequently do you have conversations with immigrants?

<input type="checkbox"/> Never or almost never	<input type="checkbox"/> 1-3 times per month
<input type="checkbox"/> Less than once a month	<input type="checkbox"/> At least once a week
	<input type="checkbox"/> Every day
12. In your day-to-day life, how frequently do you hear Spanish or Portuguese spoken?

<input type="checkbox"/> Never or almost never	<input type="checkbox"/> 1-3 times per month
<input type="checkbox"/> Less than once a month	<input type="checkbox"/> At least once a week
	<input type="checkbox"/> Every day
13. How long have you lived in this community?

<input type="checkbox"/> Less than one year	<input type="checkbox"/> 11 to 20 years
<input type="checkbox"/> 1 to 5 years	<input type="checkbox"/> More than 20 years
<input type="checkbox"/> 6 to 10 years	
14. Are you Hispanic or Latino? (check one)

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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15. Your race: (check all that apply)

<input type="checkbox"/> Asian	<input type="checkbox"/> White
<input type="checkbox"/> Black/African American	<input type="checkbox"/> Other
16. Your gender: (circle one) M F
17. Year you were born: 19_____
18. Highest educational level *completed*: (check one)

<input type="checkbox"/> Some grade school	<input type="checkbox"/> 2-year college
<input type="checkbox"/> 8th grade	<input type="checkbox"/> 4-year college
<input type="checkbox"/> High school diploma/GED	<input type="checkbox"/> Post-graduate
19. Your total yearly household income is: (check one)

<input type="checkbox"/> Less than \$20,000	<input type="checkbox"/> \$40,000 - \$80,000
<input type="checkbox"/> \$20,000 - \$40,000	<input type="checkbox"/> Above \$80,000

Figure A1. Image of the treatment version of the 2008 Everett/Somerville exit poll.
 Source: The 2008 Everett/Somerville exit poll.

Table A1. Descriptive statistics, 2008 Massachusetts exit poll.

	Mean	SD	Min	Max	<i>N</i>
McCain voter	0.17		0	1	149
Obama voter	0.80		0	1	700
Did not vote/other	0.04		0	1	36
Female	0.58		0	1	499
Non-Hispanic white	0.65		0	1	587
Non-Hispanic black	0.12		0	1	108
Hispanic	0.08		0	1	76
Other race/ethnicity	0.15		0	1	131
Age	41.00	14.00	18	88	818
Education	14.81	2.80	5	19	873
Income	2.80	0.95	1	4	835
Talk with immigrants (5 = Everyday)	4.11	1.23	1	5	866
Hear Spanish (5 = Everyday)	4.47	0.97	1	5	871
American life threatened	2.95	0.97	1	4	861
Decrease immigration	0.35		0	1	854
Somerville Firehouse	0.43		0	1	386
Somerville Library	0.07		0	1	66
Everett Recreation Center	0.28		0	1	250
Everett Senior Center	0.22		0	1	200

Source: The 2008 Everett/Somerville exit poll.