How have attitudes toward US immigration changed?
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Evolution of attitudes toward immigration expressed in congressional speeches and presidential communications. Average tone is computed as the percentage of proimmigration speeches minus the percentage of antimmigration speeches, where proimmigration means valuing immigrants and favoring less restricted immigration and vice versa. Top and Bottom show the overall tone using all congressional speeches about immigration (black dashed line, with bands showing plus or minus two SDs based on the estimated proportions and number of speeches). Top also shows separate plots for speeches by Democrats and Republicans in Congress. (Due to limitations of the data, about 15% of speeches do not have a named speaker or party affiliation.) Bottom shows the corresponding estimates for each president, showing the overall average for a president’s tenure when there are insufficient data to show annual variation. Note that most modern presidents have been more favorable toward immigration than the average member of Congress. By contrast, Donald Trump appears to be the most antimmigration president in nearly a century. Similarly, congressional Republicans over the past decade have framed immigration approximately as negatively as the average member of Congress did a century earlier.

Hostility to immigrants isn’t new to the United States. In 1896, Henry Cabot Lodge warned on the Senate floor that the “mental and moral qualities” of Americans would be endangered by the “wholesale infusion of races whose traditions … are wholly alien to ours.” In recent years, former President Donald Trump demonized Mexican immigrants as rapists and drug dealers and suspended immigration from several countries with predominantly Muslim populations.

Are either of these speakers representative of the broader opinion of their times?

A new study that uses artificial intelligence to chart the tone of more than 200,000 congressional and presidential speeches on immigration since 1880 provides a surprising historical perspective.

The study, just published in Proceedings of the National Academy of Sciences, finds that the overall trend of political speeches quickly became more sympathetic following World War II and has remained favorable, on average, until today.

At the same time, however, attitudes have become increasingly polarized along party lines. Democratic rhetoric has been reliably sympathetic toward immigrants since the 1960s, and especially pro-immigration in the past decade, while that of Republicans has become increasingly hostile since the 1990s, and more likely to characterize immigrants with subtle de-humanizing language.

"The overall trend in speeches toward immigrants before the 1920s was negative, but it shifted to mostly positive within a single generation—from 1945 to 1965," says Ran Abramitzky, a professor of economics and an economic historian at Stanford who teamed up with AI researchers on the new paper. "One thing we find especially striking is that positive sentiment continued in recent decades, even after the border reopened in 1965 and as the flow of immigrants from Central America and Asia has replaced migration from Europe."

All told, the team assessed 8 million speeches, and then drilled down on more than 200,000 that were
relevant to immigration. Using natural language processing, the researchers then identified whether each speech was positive, negative, or neutral. They also developed a new lexicon for identifying frames that are commonly used in discussing immigration, such as crime or family, as well as a novel algorithm to spot subtle uses of de-humanizing language.

Among those who oppose immigration, hostility remains high. Republican politicians are much more likely to use language that implicitly characterizes immigrants as animals, machines, or cargo. The researchers also found that the hostile rhetoric toward Mexican immigrants today is very reminiscent of that used against Chinese immigrants in the late 1800s, when they were targeted by the nation's first country-based restrictions on immigration. By contrast, European immigrants were spoken of more sympathetically than non-Europeans, even though both were viewed negatively overall before the middle of the 20th century.

**Studying culture shifts with AI**

The research highlights the opportunities that artificial intelligence offers for helping social scientists study complex social and political trends. "The ability to analyze 150 years of speeches in such detail is a triumph of modern computing and machine learning," says Abramitzky, "How else would we be able to read millions of speeches?"

The multidisciplinary research team was led by Dallas Card, a postdoctoral fellow in computer science at Stanford who is now an assistant professor at the University of Michigan. In addition to Card and Abramitzky, the team included Serina Chang, a computer scientist at Stanford; Chris Becker, an economist at Stanford; Julia Mendelsohn, an information scientist at the University of Michigan; Dan Jurafsky, a professor of linguistics and computer science at Stanford; Leah Boustan, a professor of economics at Princeton; and Rob Voigt, an assistant professor of linguistics at Northwestern University. "It was only by bringing together economic historians, linguists, computer scientists, and information scientists that we were able to tackle this problem," says Card. The team was funded by the Stanford HAI Hoffman-Yee Research Grant Program, which supports research that applies artificial intelligence to address real-world problems.

To train machine-learning models that could accurately recognize the tone toward immigrants, the team began having human research assistants manually annotate a sample of speeches on whether they were positive, negative, or neutral and how they characterized immigrants.

Anti-immigrant speakers tended to use words associated with crime, threats, cheap labor, and, more recently, terrorism. Sympathetic speakers were more likely to use words associated with community, hard work, humanitarian needs, and contributions to the country.

Identifying de-humanizing language, which is often implicit and subtle, required a more sophisticated approach. The team developed an algorithm based on language models that were trained on massive amounts of text and have proved very accurate at predicting how likely a word is to appear in a particular context.

The algorithm was used to identify any mentions of immigrants in contexts that were associated with long-studied metaphorical categories for de-humanization, like "animals" (cued by words like "herds"), floods ("pouring"), or vermin ("swarm"). In an 1893 speech, for example, the method identified the phrase "shall this swarm of aliens be turned back?" In a 1942 speech, it flagged the declaration that "immigrants from the devastated countries of Europe will swarm over our land and devour its resources."

**Partisan divide**

The research team also noticed a trend between political parties: Republicans over the past two decades have begun using significantly more implicit dehumanizing metaphors than Democrats.

Until about 1980, Republican and Democratic congressional speeches were fairly similar in their tone, with the balance being negative until World
War II and turning positive from then until the mid-1970s. But the two parties began to diverge after 1980—most sharply after 2000. Except for Trump, both GOP and Democratic presidents have been generally positive toward immigration since the Truman era. The researchers say that probably reflects the fact that presidents place more value on the broader benefits of immigration.

But in the past 20 years, Republicans have referred to immigration much more frequently using words associated with crime, legality, deficiency, and threats. By contrast, Democrats more frequently used words associated with culture, family, contributions, and victims.

The positive tone toward immigrants in recent political speeches reflects rising positive sentiment in the country as a whole. The researchers note that their overall result—that anti-immigrant sentiment has decreased—is consistent with recent public polling. In a 2021 Gallup poll, 75% of respondents said that immigration had been good for America.

"Although views toward immigration are more polarized by party than ever before, there is a silent majority that favors immigration. Attitudes toward immigration are more positive now than at almost any time in U.S. history," says Abramitzky.


Provided by Stanford University


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