

# New Voices of Inquiry: How the Inclusive Classroom Catalyzes Innovative Research

Elaine K. Denny, *University of California, Merced, USA*  
 Bianca Amechi, *University of California, Merced, USA*  
 Alejandra Barajas Sanchez, *University of California, Merced, USA*  
 Selma Corral Acosta, *University of California, Merced, USA*  
 Gabriel De Pina, *University of California, Merced, USA*  
 Jessica Frausto, *University of California, Merced, USA*  
 Jackeline Meza, *University of California, Merced, USA*  
 Elizabeth Meza Torres, *University of California, Merced, USA*  
 Iven Morales, *University of California, Merced, USA*  
 Ana Murillo, *University of California, Merced, USA*  
 Beatrice Mae Ngo, *University of California, Merced, USA*  
 Jocelyn Ngo, *University of California, Merced, USA*  
 Karen Rodriguez, *University of California, Merced, USA*  
 Annameuy Saechao, *University of California, Merced, USA*  
 Jacquelyn Sanchez, *University of California, Merced, USA*  
 Ashley Tulle Varela, *University of California, Merced, USA*  
 Jacqueline Valdez, *University of California, Merced, USA*  
 Alexa Valencia, *University of California, Merced, USA*

## DUAL BENEFITS OF ENGAGING FIRST-GENERATION COLLEGE STUDENTS

Both family income and race and ethnicity, first-generation college students in the United States are more diverse than continuing-generation students: 51% are nonwhite, 22% speak English as a second language, and 77% are from families that earn less than \$50,000 annually. These percentages compare to 30%, 10%, and 29%, respectively, for continuing-generation students (Redford and Mulvaney Hoyer 2017). In addition to having intersectional racial and economic identities that are underrepresented in higher education, first-generation students face other challenges of navigating a new college environment, often removed from valued family networks. When educational spaces do not engage and support these diverse identities, student retention suffers. The six-year student retention rate at four-year institutions is 18 points lower for first-generation students compared to continuing-generation students (Cataldi, Bennett, and Chen 2018). As colleges and universities admit cohorts that are racially and economically more diverse (Fry and Cilluffo 2019), best practices in pedagogy highlight how also to make learning spaces more *inclusive*, particularly for first-generation students. This article defines “inclusive” as being responsive to diverse learning styles, lived experiences, and student needs while engaging varied perspectives and student interests. It

highlights pedagogical best practices that can be used in undergraduate courses to promote greater inclusion of first-generation learners *and* to encourage new research directions in social science.

We highlight teaching strategies shown to have particularly positive effects among first-generation students and demonstrate how these strategies can be applied in political science courses to foster learning and diversify research in the discipline. We describe how teams of primarily first-generation students designed, implemented, and analyzed original survey experiments to gain hands-on understanding of political psychology, and we present examples of their results. Our insights are from University California, Merced (UC Merced), a Hispanic-Serving Institution<sup>1</sup> where 73% of undergraduates are the first in their immediate family to attend college and only 10% of students identify as non-Hispanic white.<sup>2</sup> The university ranks high nationally for its share of Pell Grant-eligible students (65%), which is an indicator of financial need.<sup>3</sup> These undergraduates represent the new, more diverse face of scholarship, and their research questions—often informed by lived experience—have the potential to take political science in groundbreaking new directions—especially when inclusive courses engage their learning styles, needs, and interests.

The article demonstrates how a semester-long research endeavor, designed to teach upper-division undergraduates

the basic tools in experimental design and statistical analysis, seeded novel research insights. First, we describe the project's structure and its grounding in pedagogical best practices, particularly for first-generation learners. Second, we present data from four illustrative, student-designed experiments that highlight topics of interest to first-generation learners and where findings have the potential to advance political science conversations about race, public opinion, and policy. Results expand knowledge of within-group implicit biases, the effect of comparative context on public opinion, negative media portrayals of immigrants, and co-partisan support for immigration policies. Specifically, we show that colorism, including within the Hispanic community, affects perceptions of criminality, that presenting the US criminal legal system in a comparative context increases support for reform, and that source cues and imagery affect support for immigration policies, including among immigrant families.

Research exercises that use best practices to be more inclusive of first-generation learners can inspire students to pursue further research opportunities while also providing a springboard for a more diverse research agenda. In political science, limited attention has been devoted to increasing classroom diversity or making these more diverse spaces inclusive for diverse student needs and interests (see Holland 2006, Owen 2020, and Rasmussen 2014 for notable exceptions). Our goal is to provide an example of how instructors can integrate best practices into political science courses, promote first-generation student success, and serve as a pathway for deeper research contributions.

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### **Research as a Vehicle for Inclusive Education**

We used a semester-long research exercise to promote political psychology concepts, quantitative analysis, and broader interest in the social science research endeavor.<sup>4</sup> Overall, the research project incorporated the following four elements shown to improve outcomes for underrepresented student groups, particularly first-generation learners:

- active learning to deepen problem solving
- student teams that facilitate peer-to-peer learning
- space for topics with personal or community relevance
- benchmark due dates to pace project development under high stress and cognitive load

### **Active Learning**

An active-learning environment promotes student-based problem solving and higher information retention, even though students often think lectures are more effective (Deslauriers et al. 2019; Goedhart et al. 2019). Successful active-learning strategies include questions that are structured to promote critical thinking, problem solving in peer groups, and case-based or hands-on

application of course content (Krupat et al. 2016). Active learning is central to the inclusive classroom because these pedagogical approaches are particularly effective for women and students of color, and they have uniquely positive, longer-lasting effects for first-generation students (Reimer et al. 2016).

### **Peer-to-Peer Learning**

Because of the norms about help seeking and differences in institutional knowledge, first-generation students are less likely to seek help from instructors (Chang et al. 2020). Team exercises empower first-generation students to learn from one another and ask questions that they might be hesitant to ask an instructor. First-generation students can become isolated or feel insecure; peer groups help to overcome these challenges and improve student success (Barkley, Cross, and Major 2014). Our students were grouped by interest and balanced so that each group had high and low familiarity with statistical methods. This enabled students to help one another with problem solving and math concepts.

### **Community Relevance**

Course content engages first-generation learners more effectively when it is relevant to their lived experiences (Jehangir 2010). Learning that is framed using community-focused values (rather than individual values) boosts first-generation students' success and their sense of belonging (Stephens et al. 2012). For our experiments, students were motivated by discrimination within the Hispanic community based on skin color, a perceived low public interest (and high need) for

prison reform, and personal importance of immigration policy as immigrants and/or children of immigrants. Most teams explored public opinion on social policies and repeatedly emphasized how topics such as healthcare, immigration, criminal legal reform, gun safety, and student debt are salient for their communities (figure 1).

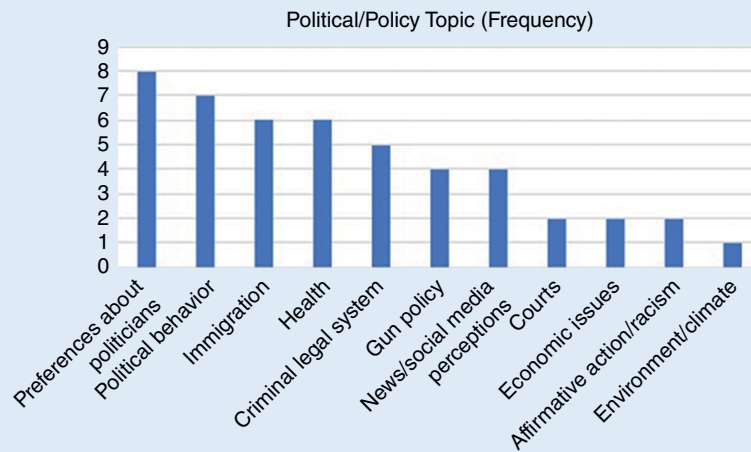
### **Support for High Cognitive Load**

First-generation learners often face greater responsibility and more potential stressors outside of the classroom. Family obligations (particularly if their parents have limited English proficiency), financial pressure to work, and limited financial or health resources with broad impacts on well-being—these pressures can increase stress levels and interfere with academic success (Mehta, Newbold, and O'Rourke 2011).

In general, high stress impairs the ability to set and work toward goals, making it more difficult for students to perform well on high-stakes final exams and projects (de Jong 2010). Instead of assigning a few high-stakes assignments, instructors can divide work into shorter, smaller benchmarks (Bisin and Hyndman 2020). This helps students to pace learning

Figure 1

### Team Survey Experiments by Topic



46 student teams, 2018–2020

under high cognitive load and smooths grading over more assignments when stressors or crises affect short-term performance. Dividing a large assignment into its components also provides more opportunity for feedback; encouraging a growth mindset increases performance among underrepresented students (Fink et al. 2018). Thus, this exercise was divided into multiple benchmark assignments to pace students, provide feedback, and encourage a growth mindset.

#### ASSIGNMENT STRUCTURE

For the project, students were divided into five-person groups based on shared interests and diversity in math fluency. Each student group designed a theory-grounded survey experiment with randomization of treatment conditions. Students were given freedom to choose their research topic and were encouraged to explore social science questions of particular interest or relevance to their group. Whereas students designed the experiment in teams, the final analysis—written as a short research paper—was submitted individually.

Learning goals were communicated clearly to students at the beginning of the semester and in framing the assignment. A main goal was growth in their ability to design, conduct, and analyze original survey research. Other learning goals included an ability to think critically about the implications (and limitations) of findings, being a thoughtful consumer of political research, communicating results effectively in writing, and working efficiently as a team. Students were reminded that both the hard and soft skills sharpened in this exercise are valuable for various careers that rely on behavior research (e.g., political consulting, public health, program evaluation, and marketing)—messaging that increases first-generation students’ awareness of how college skills can translate into a broad range of career options. Furthermore, because the survey “subjects” were the students themselves, the exercise gave them an opportunity to consider their own within-group and out-group biases. Their findings could promote perspective

taking and make space for more inclusive classroom conversations.

The research project encompassed a series of benchmark assignments that paced learning and provided regular feedback to promote growth. Each group submitted (1) their research question with treatment and outcome variables, (2) a draft hypothesis and a short survey instrument, and (3) a final survey instrument incorporating instructor and teacher assistant feedback. (See the online appendix for sample assignment prompts.) After coding the experiments into a combined instrument on Qualtrics, the class took the survey and could use their social networks to solicit additional responses; all responses were anonymous. Students received access to a cleaned dataset and used t-tests to analyze their results. For the final paper, they followed a rubric that set expectations and provided familiarity with the research article format. Each student submitted a first draft and received feedback from two peers before the final submission. The peer-feedback process helped both the reviewer and the reviewee to think critically about their own work.

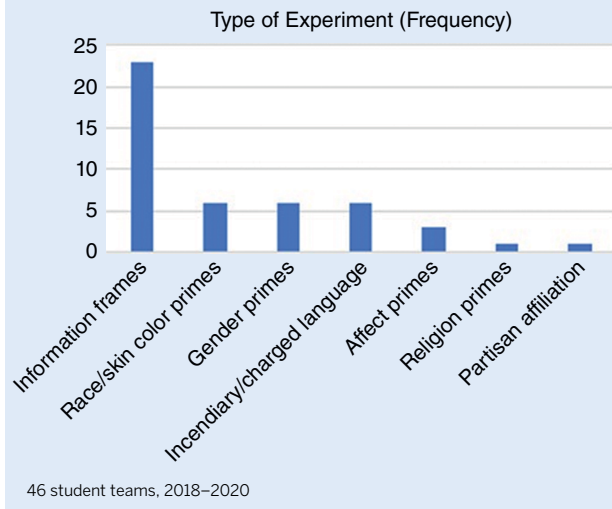
#### EXPERIMENTAL INSIGHTS

This section describes four illustrative studies designed by student teams. These experiments are highlighted because of their novel research questions and the significance of their findings. Figure 2 presents the distribution of experiment types used across three student cohorts (2018–2020). In these results, we replicated the teams’ initial experiments (conducted on a within-class sample) by using a larger and broader sample of university students, collected through UC Merced’s undergraduate student research pool.

Study participants for these data were recruited in late 2020 using the university’s undergraduate research pool (N = 296).<sup>5</sup> Demographics are reflective of the university’s upper-division social science majors: 65% Hispanic, 92% students of color, 74% female, and 56% first-generation college students. (See the online appendix for survey questions.)

Figure 2

## Experiment Designs Chosen by Student Teams



### EXPERIMENT 1: HISPANIC SKIN COLOR AFFECTS PERCEIVED RECIDIVISM

“Racism” refers to discrimination based on racial or ethnic group; “colorism” refers to prejudices and discrimination due to skin color. Colorism is “built on the foundation of institutional racism and white privilege,” affecting workplace opportunities and others’ perceptions of threat and beauty (Hunter 2013, 247). Darker skin correlates with longer sentences, harsher penalties, and a greater perceived threat to society (Hunter 2013). Colorism can affect people within their own race or ethnic group. For example, lighter-skinned Hispanics may experience racism, whereas darker-skinned Hispanics may be victims of both racism and colorism. A hierarchy based on skin tone, established by Spanish conquistadors, continues affecting indigenous, darker-skinned Latin Americans (Chavez-Dueñas, Adames, and Organista 2014).

We hypothesized that people assign a harsher punishment to individuals with darker skin and that darker skin color increases their expectations for recidivism. We focused on Hispanic men in our experiment because existing literature and the authors’ personal experiences suggest that colorism continues to influence perceptions within the Hispanic–Latin community, and the majority of our respondents were Hispanic.

We randomly presented photographs of two men with different skin tones but with the same fictional rap sheet and education level (figures 3a and 3b). The two key outcomes were length of jail sentence recommended by respondents and the likelihood of committing future crimes.

A t-test comparing recommended sentencing for the light- and dark-skinned images revealed no significant difference. However, respondents, on average, stated that the darker-skinned person was 0.2 point (on a 5-point scale) more likely to commit another crime, significant at 95% (figures 4a and 4b). The results appear to be driven entirely by Hispanic respondents. These results supported our expectation that

Figure 3

## Colorism Treatment Images



skin color continues to affect how people perceive another’s criminality, even within racial or ethnic groups.

### EXPERIMENT 2: CONTEXT CHANGES ATTITUDES ABOUT THE US PRISON SYSTEM

What information about the US prison system affects attitudes about the criminal legal system’s appropriateness and effectiveness? In the past four decades, US prisons have grown increasingly overcrowded, and many correctional facilities are plagued by violence, sexual assault, and suicide (Ahalt et al. 2020). By comparison, correctional systems in countries such as Norway prioritize health, humanity, and rehabilitation (Hurlburt 2018). Recent work highlights how prison design impacts public perceptions of prisons (Adler 2019). We tested whether information about the Norwegian prison system changes attitudes about incarceration. We randomized photographs of a US cell alone and contrasted with a Norwegian cell. Under each image were facts regarding the country’s prison system (figure 5). After viewing, participants reported their perception of the US system’s efficacy.

Presentation of the Norwegian information strengthened disagreement with the statement that the US system reduces crime by an average of 0.6 point on a 7-point scale (99% significant). The Norwegian information also made respondents less likely to believe that the US system provides sufficient resources for reintegration (95% significant) (figures 6a and 6b). These results supported our expectations.

### EXPERIMENT 3: IMAGERY SHAPES OPINIONS OF IMMIGRANTS

This experiment was inspired by negative media portrayals of undocumented immigrants and the impact on students’ communities. Many Hispanics feel targeted and stereotyped as undocumented despite being legal citizens, and 32% stated that the situation is worsening (Lopez, Morin, and Taylor 2010). We tested how visual imagery affects attitudes toward undocumented immigrants. We randomly presented either farmworkers or a group of tattooed men who all appeared to

Figure 4

Colorism Study Results Overall and by Hispanic Ethnicity

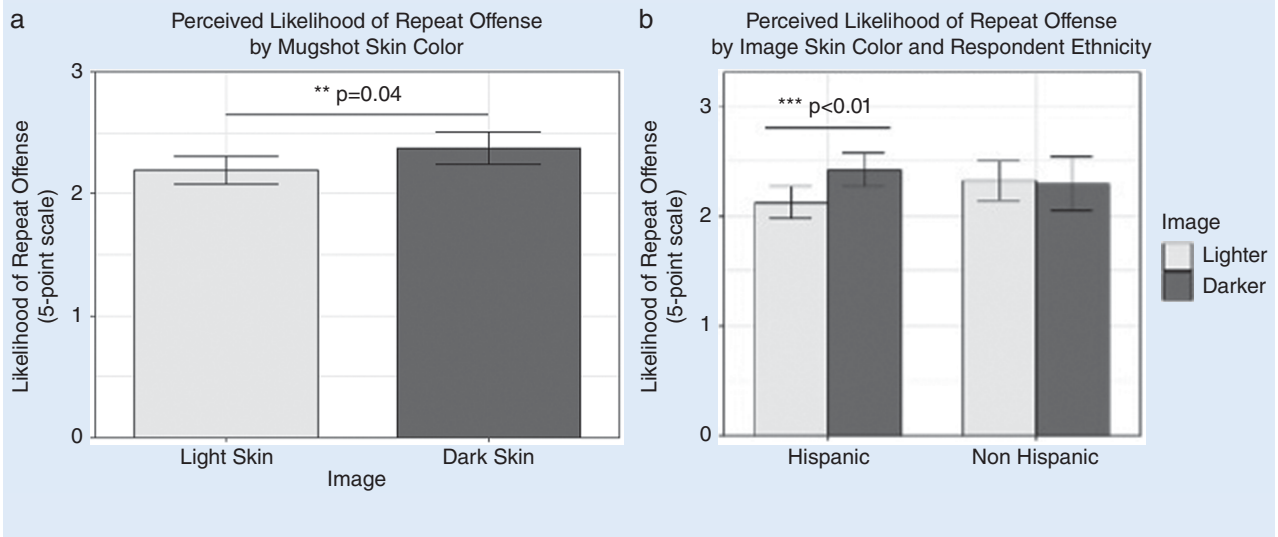




Figure 5

Prison Opinion Treatment Images

	
Inside the U.S. Prison Cell	Inside the Norway Prison Cell
Crime Rate 530 per 1,000 people	Crime Rate 50 per 1,000 people
Recidivism rate: 76.6% 331,002,651 people	Recidivism rate: 20% 5,421,241 people
Punishment Focused	Rehabilitation Focused
<small>Source: <a href="https://www.pewresearch.org/2017/05/02/prison-reform/">https://www.pewresearch.org/2017/05/02/prison-reform/</a></small>	<small>Source: <a href="https://www.pewresearch.org/2017/05/02/prison-reform/">https://www.pewresearch.org/2017/05/02/prison-reform/</a></small>

be Hispanic–Latino (figures 7a and 7b). We expected that the farmworkers’ image would earn more support for undocumented immigrants compared to the stereotypical “bad hombre.” We then measured attitudes toward “illegal aliens.”

Even in our sample, in which 84% self-identified as ideologically liberal, the farmworkers’ image increased agreement that immigrants are hardworking by an average 0.3 point on a 7-point scale (95% significance) (figures 8a and 8b). Subgroup

analysis suggests that this result was driven not by a more negative reaction to the tattooed image but rather a positive reaction to the farmworkers’ photograph.

Of our respondents, 57% were first-generation college students and often came from immigrant families. These first-generation respondents were 0.4 point more likely to agree that undocumented immigrants are hardworking when shown the farmworkers’ image; other respondents showed no significant difference between treatments. These results show that a

Figure 6

## Results of Prison Attitudes Study

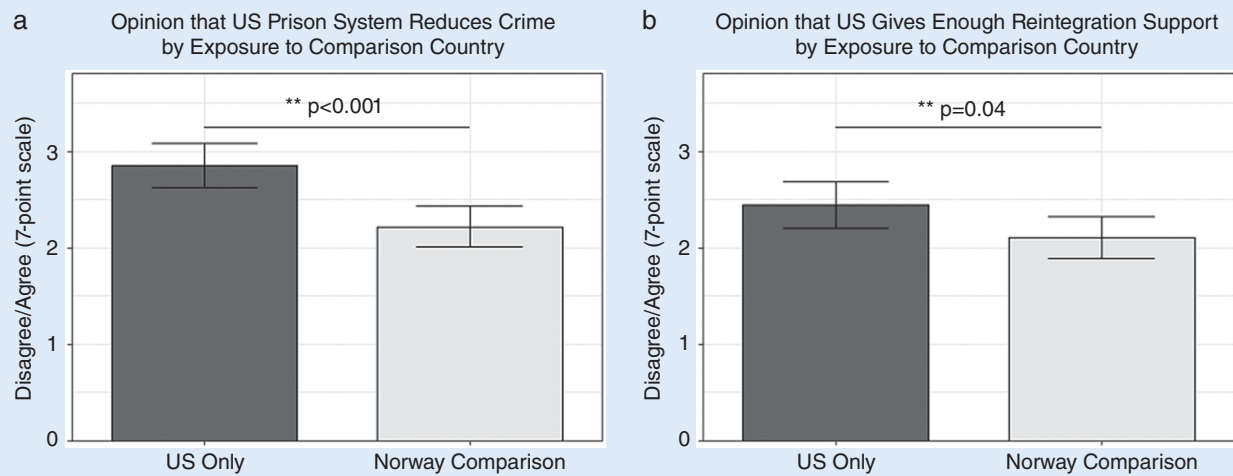


Figure 7

## Immigrant Treatment Images



positive congruence between the portrayal of immigrants and the respondents' own experience may heighten positive perceptions of undocumented immigrants.

### EXPERIMENT 4: SOURCE MATTERS FOR IMMIGRATION ATTITUDES

People's bias for co-partisan candidates and policies is stronger than the proximity of their ideological positions would predict (Jesse 2010). Even among informed citizens, partisan bias moderates voter behavior. We tested how partisanship affects attitudes toward US immigration policy. Both Presidents Barack Obama and Donald Trump promoted restrictions on immigration. We tested whether individuals' opinions conformed to co-partisan presidents' statements. Our sample was 84% Left-leaning, so we expected that overall participants would disagree less with anti-immigration statements when informed that the quote was by Obama (a co-partisan

president). Because Trump was not a co-partisan president for most of our sample, we did not expect sentiment toward his statements to change based on attribution. The control group was given two anti-immigration quotes without attribution. The treatment group was informed of the statements' source (i.e., Obama or Trump). All respondents were asked to rate how strongly they agreed or disagreed with each statement.

When Obama's quote was attributed, participants were 0.8 point (on a 5-point scale) less likely to disagree with the anti-immigration statement (99% significance). By comparison, the Trump attribution had no significant effect (figure 9). This indicates that immigration restrictions may face less opposition when associated with co-partisan leaders.

### CONCLUSION

A diverse classroom is not inclusive by default. To make research inclusive for first-generation learners, instructors

Figure 8

### Results of Undocumented Immigrants Study

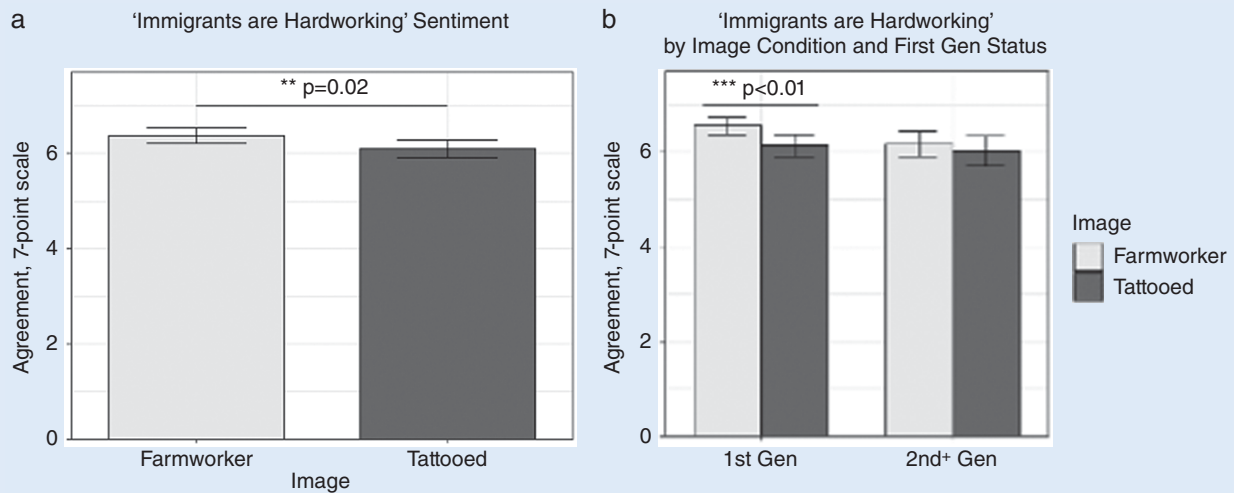
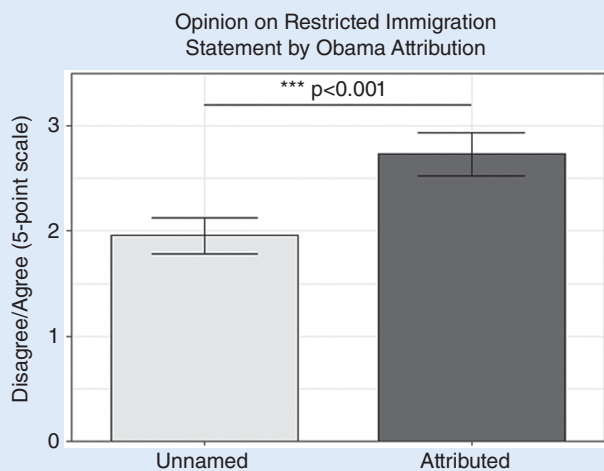


Figure 9

### Immigration Attitudes by Obama Attribution



should incorporate evidence-based best practices that meet their unique needs and improve their confidence, knowledge, and growth. This article describes four strategies for making course-based research more inclusive of first-generation students: active-learning strategies, peer-to-peer and team learning, content with community relevance, and assignments that pace deliverables under elevated stress. Student evaluations of this exercise were consistently positive, and first-generation students often credited the project with

motivating a deeper interest in research and/or a deeper commitment to serving their community through data-driven policy making. (See the online appendix for student comments.)

For first-generation students, who are less likely to engage with faculty on research (Kim and Sax 2009), sparking research interest through classroom engagement can provide additional confidence and motivation. Furthermore, as the college classroom becomes more diverse, empowering students to conduct research increasingly can yield novel insights. This article presents work from four student teams whose experiments reflect interests in discrimination, criminal legal reforms, and immigration policy. We show that colorism, including within the Hispanic community, affects perceptions of criminality. Presenting the US criminal legal system in a comparative context increases support for reform. Source cues and imagery affect support for immigration policies, including among immigrant families.

When structured appropriately, course-based research exercises can make the diverse classroom truly inclusive for first-generation learners. These students gain research skills and often are inspired to pursue further research opportunities. At the same time, their questions have the potential to broaden and deepen our understanding of political science.

#### SUPPLEMENTARY MATERIALS

To view supplementary material for this article, please visit <http://doi.org/10.1017/S1049096522000968>.

#### CONFLICTS OF INTEREST

The authors declare that there are no ethical issues or conflicts of interest in this research. ■

## NOTES

1. 58% of students identified as Hispanic.
2. See <https://cie.ucmerced.edu/undergraduate-enrollments>, where additional demographic statistics about the student body can be accessed.
3. See [www.usnews.com/best-colleges/rankings/national-universities/economic-diversity](http://www.usnews.com/best-colleges/rankings/national-universities/economic-diversity).
4. The research exercise, as implemented, was for a mid-sized 80-student class. However, the best practices used also can be applied to larger classes, especially with adequate teaching assistant support.
5. IRB approval #UCM2020-43.

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