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Expanding Opportunities for Underrepresented Students in Political Methodology: The Data Lab @TAMUPOLS

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Although the representation of women and minorities in STEM subjects has improved in recent decades, a lack of diversity remains an issue across a range of fields (e.g., Porter and Serra 2019; APLU 2016). Within political science, gender and race gaps are especially pronounced in mathematically-oriented subfields, including quantitative methodology and formal theory. As an example, whereas women constitute 37.4% of members of the American Political Science Association (APSA), only 22.76% of members in the methodology section are women. Latinos make up only 5.92% of APSA memberships and Black individuals only account for 4.88%. In political methodology, only 0.87% of APSA members are Black/African American (APSA 2020).

This trend can partly be traced back to political science education, both at the undergraduate and graduate level. At the graduate level, the underrepresentation of racial and ethnic minorities has drawn renewed public critique. Chris Roudiez, a UMD economics graduate student, recently complied data from The National Center for Education Statistics showing a dearth of racial and ethnic diversity among graduates in the top political science PhD programs.

So how do we close the diversity gap in PhD graduates and specifically in the political methodology subfield? More broadly, how can we advance broader career opportunities in data science for URM students? One avenue is to make quantitative social science more accessible to underrepresented students. In evaluating the gender gap in STEM fields, scholars have shown that encouragement and information sharing on the benefits of acquired skills can boost women's interest and enrollment (Bayer and Rouse 2016; Barnes 2018). We also know that providing research opportunities increases retention of students of color and increases the likelihood they will pursue advanced STEM degrees (e.g., Nagda et al. 1998; Russell et al. 2007).

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Drawing from this research, and the thoughtful brainstorming and model programming across political science (e.g., the Ralph Bunche Program at Duke University and the Emerging Scholars Program at the University of Michigan), the Department of Political Science at Texas A&M University has developed The Data Lab @TAMUPOLS. In the two-day workshop, undergraduate or master's students gain hands-on experience managing, visualizing, analyzing, and interpreting data in Stata software. Under the guidance of a professional instructor (who has donated time from StataCorp) and graduate student assistants, participating students work through sample datasets, solve practice problems, and develop skills to apply to their own research and future pursuits.

Students are also exposed to current academic research and research careers via keynote research talks by TAMU faculty. They meet with other TAMU political science faculty, spend time with TAMU PhD students, and speak with the political science graduate director about our program, as well as the application process.

Key to the continued success of the program is recruitment and sustained communication with participant students after the Lab. We began months in advance to recruit across Texas A&M and at surrounding institutions. In our inaugural year, we contacted department heads and faculty at other Texas colleges and universities to help encourage top candidates to apply. We

also partnered with The Minority Graduate Placement Program (MIGAP) to fund travel and accommodations for seven Data Lab participants from the University of Puerto Rico.

Nearly all students came into the Data Lab in 2020 and 2021 with limited knowledge of data science and coding, but most left with concrete skills and enthusiasm for continuing data science education. After the lab, 86% of participants agreed or strongly agreed with the statement: "a career using quantitative methods is attainable for people like me." There was also a marked increase in the number of students who strongly agreed with the statement: "It is important for people like me to learn quantitative methods" (from 43% strongly agreeing with this statement prior to the lab to 64.5% strongly agreeing after the lab experience.)

In our efforts to continue supporting participants, we provide certificates of completion and formal recommendation letters upon request. I also continue to share additional research opportunities via email. In line with the mentoring literature, we hope that building longer-term relationships with students will increase our programmatic effectiveness (Grossman and Rhodes 2002).

Although the COVID-19 pandemic forced the Data Lab into the virtual format in 2021, we worked to recreate our inaugural experience as much as possible. With the virtual formal and no travel costs, we were also able to cast a wider net and accept more students from outside the state (including six from the University of Puerto Rico). Stata Corp provided temporary software licenses to all participants and we continued to offer one-on-one graduate student support throughout the lab. The lab experience continued to include faculty research talks and we added one-on-one faculty meetings with students via Zoom. In an effort to bring a taste of "Aggie life" to all involved, we also sent locally curated care packages via mail.

Overall, our hope is that this program can serve as a model for other institutions who face resource constraints but are committed to advancing diversity, equity, and inclusion within political science. ∎

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