

Nicholas J. Seewald

Diversity, Equity, and Inclusion Statement

Statistics and data science have been rapidly changing our world. The breadth of ideas and methods in our discipline has allowed our impact to stretch across the sciences, business, and even the arts. It is a shame, then, that the diversity of thought in statistics is not strongly reflected in the diversity of our membership. In 2014, the American Statistical Association's membership was estimated to be 95% white or Asian; only about one-third of members were women [2]. Recent years have seen increased focus on improving the diversity of our community, especially in regards to gender parity, but much work remains to be done.

I am strongly committed to efforts for improving diversity in Statistics and STEM fields in general. I demonstrate this commitment by (1) engaging in a process of continual learning about diversity, equity, and inclusion (DEI); (2) practicing inclusive teaching strategies to ensure my classroom is a welcoming space; and (3) advocating for the inclusion of underrepresented voices in statistical training opportunities.

In 2018, I enrolled in an experimental course on mathematics and social justice in the School of Education at Michigan. The course explored aspects of modern life in which math can be used to promote a more just society. We discussed topics like voting systems, gerrymandering, and cryptography, which offered me a lens through which to think about my own responsibilities to society as a statistician, particularly in the age of big (and possibly biased) data. I found the course empowering, and sought to learn more about how I could contribute to DEI efforts more broadly.

I am currently engaged in a professional development program in DEI through the Rackham Graduate School at the University of Michigan. This year-long certificate program comprises training and workshops related to implicit bias, microaggressions, communicating across differences, and more. This experience has allowed me to reflect on my own identities and privileges, and how they impact my understanding of the world. The program also involves implementing a personalized, comprehensive cultural awareness development plan through the Intercultural Development Inventory. I believe a crucial component of advancing DEI efforts is continued learning and self-reflection about these concepts and others' experiences in academia and society more broadly. To this end, I am committed to a lifelong learning process that centers the voices of people from underrepresented groups, sparked in part by this professional development program.

Improving the diversity of statistics as a discipline needs to begin in the first undergraduate course. We as educators must recognize and foster the abilities of students from underrepresented backgrounds, and make it clear that statistics is a welcoming field for them. Making more visible the contributions of statisticians from underrepresented groups – including women, Black, Latinx, and LGBT+ scholars – should be a central component of this. We need to reframe the notion of what a statistician looks like: students should be able to see themselves reflected in our ranks so that they know people like them can do statistics. Evidence suggests that students' academic success is correlated to their feelings of belonging in the classroom; it is thus incumbent on instructors to cultivate that belonging in the hopes of cultivating future statisticians [1].

Statistics education is a prime candidate for the use of inclusive teaching practices. I emphasize in classes that sex and gender are not good examples of a binary variable, for example, and I am sure to use a variety of pronouns in examples to discourage gender-based stereotypes (e.g., “when you go to the doctor, she might...”). Crucially, though, I believe that working with data is an opportunity for students to broaden not only their understanding of the world but also to learn to appreciate that data can tell larger, broader stories than they may have heard in the past. I invite students in my class to step outside of their intuition about, say, whether two events are independent in order to highlight that the world may work in ways that may not be immediately apparent to them. I also reinforce the importance of precision not only in statistical language, but also in understanding the limits of our analyses. For example, we may find data showing obesity correlates with use of social assistance programs. I encourage students to ask how data were collected and to look for confounders, rather than accepting at face value a harmful “data-driven” conclusion.

In the classroom, I am committed to fostering a welcoming, inclusive environment for my students. In the first class, I specifically draw attention to the diversity, equity, and inclusion statement in my syllabus and offer students semi-anonymous ways to report situations which make them uncomfortable and impede their ability to learn. In an effort to cater to first-generation college students, I strive to design transparent assignments with clearly defined learning goals and criteria for success, and explicitly state the purpose of office hours. I believe that diversity, equity, and inclusion efforts also encompass individuals struggling with chronic or acute mental health issues. I have attended a training session on how to appropriately respond to and support students who disclose struggles with mental health, and feel comfortable helping people navigate finding appropriate resources to ensure their well-being in a way that is appropriate to my role as an instructor.

My commitment to DEI extends outside the classroom as well. While it is imperative that we engage and retain statistics students from diverse backgrounds, we also need to advocate for scholars from underrepresented groups. For the past two years, I have served on the admissions committee for a federally-funded, multi-day statistical training workshop run by my research group. In both years, I pushed for admissions criteria that would maximize demographic diversity in an effort to give scholars from underrepresented groups the opportunity to develop in-demand skills. I have also done pro-bono statistical consulting work through a student group (STATCOM) to help a youth crisis center improve their resource allocation to better serve their community.

As a junior faculty member, I will continue to advocate for improved representation of minority groups in the classroom and in admissions and hiring decisions. It is imperative that we foster an inclusive culture from the start of an undergraduate statistics education in order to recognize and retain talented individuals from underrepresented groups. Beyond that, we need to think hard about curriculum design in graduate school which allows for the retention and long-term success of students pursuing PhDs. I am committed increasing the diversity of our field, and I look forward to opportunities to help lead statistics into a more inclusive future.

References

- [1] Susan A. Ambrose, Michael W. Bridges, Michele DiPietro, Marsha C. Lovett, and Marie K. Norman. *How Learning Works: Seven Research-Based Principles for Smart Teaching*. John Wiley & Sons, May 2010.
- [2] Ronald Wasserstein. ASA at 175 – Some ASA demographics, April 2014.