CALL FOR PAPERS

Data Through Multiple Lenses: Navigating Subjectivities and Cultural, Ethical and Personal Perspectives in Data

2027 SPECIAL ISSUE OF THE STATISTICS EDUCATION RESEARCH JOURNAL (SERJ)

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This special issue aims to address a gap in statistics and data science education, regarding the need to address the cultural, ethical and personal perspectives and subjectivities learners bring to bear on the data they work with. Research has not sufficiently addressed the human element when working with data and how we can acknowledge and build upon human perspectives and subjectivities when working with data in the classroom. Expressions of interest (including abstract of max. 250 words) to contribute to this Special Issue need to be sent as a pdf file including authors with affiliate and email address to srtlmailbox@gmail.com and jennifer_noll@terc.edu by **October 31, 2025.**

1. BACKGROUND

> *"Given the rise of Big Data as a socio-technical phenomenon, we argue that it is necessary to critically interrogate its assumptions and biases"* (boyd & Crawford, 2012, p. 662)

Data are now ubiquitous, collected incomprehensibly fast, and in many different ways (e.g., sensors, apps, software, imaging technologies, large language models, etc.) and used to make inferences or predictions in every field imaginable. As technologies continue to rapidly evolve, including GenAI, so too will approaches to data analysis. Therefore, the ways in which we consider the teaching and learning of statistics and data science will also need to evolve - and involve multiple disciplines. At the same time, data have a past (how and why they were collected) and a future (how data will be used, re-purposed, scraped and the implications of doing so) that both impact and are impacted by humans. If the subjectivities and perspectives that underpin human decision-making when investigating data are neglected, it can create an unproductive distrust of data as mismanaged or manipulated, or a naive over-trusting of data

taken out of context or used in disinformation campaigns. By embracing a theme of subjectivities and perspectives, we seek to emphasize the human element embedded in all aspects of working with complex data, including but not limited to interdisciplinarity, ethics, privacy, sampling and structural biases, human subjectivities, healthy skepticism, personal and cultural perspectives, diverse purposes behind data collection and raising awareness of the implications that predictions from data can have on people. As Noll and her colleagues (2022) stated,

> personal biases and narratives impact how data are collected and created, even by professionals, as well as the inferences and predictions drawn from those data, and the models generated by them. … [Acknowledging] the complexity of data and the impact of personal and cultural narratives in the production and interpretation of data will provide teachers with opportunities to engage students in working with data as scientists, by interrogating the source and assumptions that support their models.

Engaging with the full investigation cycle, including the shuttling between the context sphere and the statistical sphere (Wild & Pfannkuch, 1999) has always been complex, in which human intention and purpose can both drive and emerge in the process. For learners, focusing on the contextual features of data and incorporating learners' stories about what they are seeing in data acknowledge the human aspect of working with data. Doing so can build learners' reasoning and data practices that cultivate healthy scepticism and support their ability to navigate subjectivities as they consider data ethics, bias and multiple perspectives. In addition to thinking about all the ways learners might collect or source data, engage with the context in which data are situated, interrogate, model and analyse data, draw conclusions or make predictions from data, statistics educators must also consider professional development for teachers and what skills and dispositions teachers need in order to develop learners' data practices and healthy skepticism (not distrust) when working with data.

Relevant questions we wish to tackle in this special issue include:

1. How can statistics and data science education effectively integrate the critical examination of human subjectivities, biases, and cultural narratives into data practices at all levels of learning?
2. What pedagogical approaches and curricula are most effective in fostering a "healthy skepticism" and ethical understanding of data, acknowledging its inherent human-driven complexities and potential for misuse?
3. How can we empower learners and citizens to critically engage with data, recognizing its human origins, implications, and the diverse perspectives embedded within its collection, analysis, and interpretation?

2. POSSIBLE TOPICS

Below is a list of possible topics that could address the overarching focus of this special issue. **You may submit proposals in one or more of these subtopics. Please indicate in your proposal which subtopic(s) you plan to address.** Your work may be within the context of complex data forms, exploratory data analysis in modern contexts, tools and teaching skills for complex data investigations, task designs that allow for the full data investigation cycle, data modeling, machine learning or other related areas, **but must address at least one of the focus areas below**.

Human impact

1. **Curriculum and assessment for human-centric data practices:** Research on necessary changes in curriculum design and assessment methods to build and evaluate skills in data practices that explicitly address personal, cultural or structural assumptions, ethical principles, perspectives and biases.
2. **Balancing subjective awareness and objective processes:** Studies exploring effective approaches to developing healthy skepticism in learners by balancing subjective awareness with objective processes in statistics and data science education.
3. **Curriculum integration of humanistic data concepts:** Research on effective strategies and timing for introducing ideas related to human impact, ethics and bias into statistics and data science curricula in K-16 education.
4. **The role of emotion and embodiment in data reasoning:** Empirical studies or theoretical explorations of how emotion and embodiment influence reasoning processes when engaging with data.

Promoting agency and participation

5. **Learner dispositions and subjectivities in meaningful data contexts:** Research examining how learners' disposition, subjectivities, personal narratives or sense of self evolve when working with data contexts that are personally meaningful to them.
6. **Empowering citizens through data experiences:** Studies on types of data experiences that promote statistical literacy and empower citizens with less technical backgrounds to engage critically with data.
7. **Technology and offline activities for human-centered engagement:** Research exploring how various technologies, or offline activities can effectively promote human engagement with complex data
8. **Broadening participation in data science through human-centered engagement:** Studies on strategies and interventions to broaden participation of persons in data science and statistically-rich contexts for individuals and groups currently underserved by the field by drawing on their personal interests and backgrounds

Social, cultural and interdisciplinary perspectives

9. **Developing a social lens on data:** Research on how and when learners should develop a social lens on data, including engagement with data ethics, empathy, privacy issues, and acknowledging whose data are *not* collected in the secondary data sets.
10. **Indigenous and cultural knowledges:** Studies on effective methods for better representing indigenous and diverse cultural knowledge and perspectives within statistics education.
11. **Interdisciplinary Approaches to Re-envisioning Statistics Education:** Research on the role and benefits of interdisciplinary teams and diverse disciplinary perspectives in re-envisioning the opportunities and future directions for statistics education?

3. SUBMISSION GUIDELINES

Expressions of interest (including abstract of max. 250 words, indication which subtopic(s) are planned to address and short CV of the authors) to contribute to this Special Issue need to be sent

as a pdf file including authors with affiliate and email address to srtlmailbox@gmail.com and jennifer_noll@terc.edu by **October 31, 2025**. Authors will hear back regarding their expressions of interest **within 30 days of submission**. Full papers are expected to be submitted to the SERJ online submissions system iase-pub.org/ojs/SERJ **by February 28, 2026**. Accepted (and proofed) papers will be published online as soon as technically possible (and available for reading and download), well ahead of the announcement of the whole special issue, which is **planned for April 2027**.

Manuscripts for this special issue will be limited to a maximum of 10,000 words of body text, but authors are encouraged to aim for 6,000-8,000 words of body text (apart from abstract, tables and graphs, references, appendices).

Manuscripts should be submitted in accordance with the SERJ template, which can be downloaded from iase-pub.org/ojs/SERJ/information/authors. Manuscripts should follow the SERJ general author guidelines, including regarding manuscript organization and formatting. The general author guidelines for SERJ can be found here: iase-pub.org/ojs/SERJ/information/authors.

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