

Analyzing Data

Wendy M. Smith, Jay Garvey, Madison Fitzgerald-Russell
March 24, 2023





Thank You to the PRISMATIC leadership team!

Mike Bergland-Riese, University of Nebraska-Lincoln

Tricia Clayton, Wake Forest University

Antonio Duran, Arizona State University

Eliza Gallagher, Clemson University

Savannah Garmon, Osaka Prefecture University

Jay Garvey, University of Vermont

Madison Fitzgerald-Russell, Texas State University

Bryce Hughes, Montana State University

Jodi Linley, University of Iowa

Ryan Miller, University of North Carolina at Charlotte

Wendy Smith, University of Nebraska-Lincoln

John Sutton, ResultED

Matt Voigt, Clemson University



Purpose of PRISMATIC

The Propagating Research Ethics around Sexual Marginalization and Transgender Issues Conference aims to provide guidance for conducting ethical and responsible research with LGBTQIA+ individuals in science, technology, engineering and mathematics (STEM) fields in higher education.

The goals of PRISMATIC are to identify best practices and considerations for conceptualizing, designing, conducting, and disseminating higher education research involving LGBTQIA+ participants, and then create and share a prioritized research agenda related to the major ethical issues.



A few definitions

- Gender identity: one's internal sense of self; can be the same or different from sex assigned at birth
- Sexual Orientation: romantic attraction to other people
- LGBTQIA+: an acronym for lesbian, gay, bisexual, transgender, queer, intersex, asexual, and non-binary, with a "+" sign to recognize the limitless sexual orientations and gender identities people have
- BIPOC: Black, Indigenous, or People of Color

Resources for more definitions:

- [Glossary of Terms - Human Rights Campaign](#)
- [LGBTQ Terms and Definitions](#)
- [GLAAD Media Reference Guide - LGBTQ Terms](#)
- [Defining LGBTQIA+](#)



Baseline Facts

- All research that involves human participants necessarily includes people with minoritized identities of gender and/or sexuality (including but not limited to lesbian, gay, bisexual, transgender, queer, intersex, asexual, and nonbinary [LGBTQIA+])
- LGBTQIA+ individuals spend time & energy assessing their personal safety and potential consequences from disclosing their identities in every situation
- There are real implications for potential harm and danger from breaches in research confidentiality, particularly for LGBTQIA+ individuals
- Responsible conduct of research with LGBTQIA+ participants needs to span the entire research process: design & planning, participant recruitment, instrumentation, data collection, data analysis, propagation of findings, confidentiality
- All researchers are responsible for ethical practices





Schedule for Today [eastern time]

- 2:00 Welcome, Introductions, & Norms
- 2:15 Presentation of the Topic--Data Analysis--and Areas for Consideration
- 2:25 Presentation of Ethical Research Scenarios
- 2:30 Small Group Discussions--Round 1
- 2:55 Small Group Share-Outs--Round 1
- 3:05 Small Group Discussions--Round 2
- 3:30 Small Group Share-Outs--Round 2
- 3:50 Closing
- 3:55 Evaluation Survey



Workshop Norms

- We are here to learn from each other through discussions about ethical research considerations involving LGBTQIA+ communities
- We are not here to debate the legitimacy of LGBTQIA+ individuals and their identities, nor the need for vigilance and intentionality for the ethical inclusion of LGBTQIA+ individuals in STEM education research
- Verbal or written harassment or aggressions will lead to individuals being removed from this Zoom workshop
- [Code of Conduct](#)



Engagement & Participation

- Encourage others to participate, asking if others want to comment or add on your contributions (out loud or in the chat), and invite people in who have been quiet
- Recognizing the value of having, understanding, and using shared terms
- Engage (in whichever way you can); be an engaged listener
- Support an encouraging vibe and tone
- Use professional language
- Have conversations based on understanding and not debate, listen to understand (to hear, as opposed to thinking about the response)
- Engage with (and agree or disagree with) ideas, not individual people



Vulnerability, Bravery, & Secure Spaces

- Taking risks, recognizing complex contexts, being willing to contribute even when we're unsure
- Everyone is coming in with good intentions but it is also okay to point out when there is an "ouch" moment
- If you disagree, accept such disagreements and pause to respond passionately
 - Disagree with the idea and not the person
- Personal stories stay -- lessons learned go with us. (e.g., don't retell stories from those that are shared in this space)
- Use I statements and relate to our own stories and perspectives, not sharing others



Introductions

In small groups, we invite you to introduce yourselves to briefly share as much of the following as you are comfortable sharing:

- Name
- Pronouns
- Institution
- Something you have been thinking about since attending a prior PRISMATIC workshop OR something you are looking forward to during today's workshop



Data Analysis: Areas for Consideration

- What can you do if you have a small N?
 - Representing everyone fairly and accurately while tending to statistical limitations and focusing on systemic explanations
 - Power of descriptive stats and data visualization, stats that don't require large N
- What options may work when using surveys and other instruments?
 - Have an open-ended gender option
 - Then have a specific question: "For analytic purposes, which group feels most affirming for you," and one option is "I don't want to be included"
- What considerations should you keep in mind when analyzing data from a population from which you do not identify?





Scenario Discussions

- Start with the scenario selected
- Brief introductions (names, pronouns)
- 1 volunteer (or more) to take notes
- 1 volunteer to share out
- Consider the discussion questions
- You may also share similar scenarios you have encountered and how you responded

We will have two rounds of discussions; for each round there will be 2 different scenarios to choose from



Two Rounds of Discussion, Sharing out After Each

Round 1

Scenario 1: Cisnormative deficit orientation to analysis

Scenario 2: Queer theoretical framework for analysis

Round 2

Scenario 3: Pre existing data sets

Scenario 4: Limited recruitment success results in mismatch with analysis plan



Scenario Discussion Questions

- What are the ethical issues at play?
- What are the potential consequences (for researchers, research participants, etc)? Who is harmed and who stands to benefit?
- What are some possible actions, solutions, or responses?
- What are the IRB implications or how might the IRB be involved in this scenario?
- In what ways does context influence the scenario/solution(s) and how would a different context matter? (e.g. field/discipline, institution/institutional type, geographic/local context)
- What are implications for LGBTQIA+ people with multiple and intersecting social identities? (e.g., race, class, dis/ability, religion)
- Are there existing resources, networks, or groups that may have specific expertise to share in this area?



Scenario 1: Cisnormative deficit orientation to analysis

Amy is proposing an NSF grant, and they have an idea to center trans communities. They have a plan and are using a data set by and for trans people. They met with a program officer, and the program officer told Amy that they need a comparison group of cis-gender participants. What should Amy do?



Scenario 2: Queer theoretical framework for analysis

Rob is attending their dissertation proposal meeting. They have a sampling and analytic plan to interview BIPOC queer students, and have chosen a liberatory queer framework to center liberation. The committee members say this framework is not aligned enough with mainstream STEM education research, and asks them to use social cognitive theory. What should Rob do?



Round 1

Share-Out

For Scenarios 1 & 2
2-3 minutes per group



Scenario 3: Pre existing data sets

Ash got awarded an industry contract to analyze involvement in leadership from an existing survey database, but once they have access to the database, they realize the survey incorrectly collected gender as binary, which is not only restrictive, but reflects biological sex, not gender identity. Should Ash proceed to fulfill their contractual obligations? If so, how could they move forward?



Scenario 4: Limited recruitment success results in mismatch with analysis plan

Binh is doing a study about belongingness in engineering for trans and nonbinary students, but after 3 rounds of outreach, their only respondents are trans masculine people. Do they continue to recruit more students or just focus on the trans masculine students? Do they change the scope of their question and theoretical framing, and then change the theoretical approach in their analysis?



Round 2

Share-Out

For Scenarios 3 & 4
2-3 minutes per group





Coming Next

- March 31, 2-4pm ET, Disseminating Data
- May 31-June 2 hybrid workshop for Ideas Synthesis (starting 1pm CT May 31, ending noon CT June 2)

Coming soon: application to participate in hybrid workshop, where the ideas and issues that were generated in these March workshops 2 will be contextualized and synthesized into a roadmap for ethical and responsible research with LGBTQIA+ individuals. Attendees will form 4-6 working groups during the hybrid workshop, with at least 1 working group addressing development of a national research agenda and at least 3 working groups developing/gathering/curating materials for dissemination of current best practices. Limited travel funds are available for attending in person [Lincoln, NE]; online attendance is also available.



Workshop Evaluation

[https://forms.gle/4LqfLKSbo
vLcx4fm6](https://forms.gle/4LqfLKSbovLcx4fm6)

Because these workshops are funded by NSF, we need to be able to report back to NSF on how they went, via an anonymous evaluation survey.

We value your feedback and will use it to inform our future efforts in the short & long term





PRISMATIC is supported in part by a grant from the National Science Foundation (DUE-2220269). All PRISMATIC activities and findings are those of the authors and do not necessarily reflect the views of the funding agency.

