Assessing small populations: Recognizing everyone counts in your counts

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Agenda

- Discussion about challenges of studying small populations
- Quick overview of National Survey of Student Engagement (NSSE)
- A new NSSE resource?
- Tips for studying small pops
  - How the tips can help
  - Examples of using the tips
- Final discussion, thoughts, and questions

Discussing Challenges

What are some of the challenges you have faced in studying small populations such as gender variant or LGBQ+ students and faculty?

Challenges of Studying Small Populations

- It can be difficult to find and contact them—especially difficult with low overall response rates
- Nonresponse may be a challenge if disclosing one's identity is a concern
- They might quickly experience survey burden
- They may have low buy-in for assessments given our tendency to generalize—centers larger/privileged populations
- Many small populations are historically marginalized groups and data collection/analysis may further marginalize them (poorly written identity questions, non-inclusive reporting, etc.)

Challenges of Studying Small Populations

- Statistically, methods for analyzing small populations are limited. Very few resources exist to guide researchers in examining small populations, often the focus of research is on having obtained large sample sizes
- People question the validity of data from small populations
- People expect to see results based on statistical comparisons with statistical significance, but that's difficult to do with small populations
- People can be dismissive of small population results because "well…, there aren't really that many of them…"

NSSE Overview

- National Survey of Student Engagement (NSSE)
- Annual survey of first-year and senior students at four-year colleges and universities in the United States and Canada
- NSSE asks students about the time and effort students put into behaviors that have been linked to student learning and development.
- In 2017, NSSE was administered at 725 institutions resulting in over 500,000 student respondents.
  - Nearly 1,300 students identified as gender variant, and over 13,700 students identified as LGBQ+

Inclusive Data Sharing and Analysis

- Data is an invaluable and powerful. We strive to use this power for good!
- The way we collect, analyze, interpret, and share data about small populations can perpetuate limited understanding of already marginalized groups.
- Whether we are preparing internal documents or conducting research, we have a responsibility to be conscious of the ways that we engage in this work.
- We have identified several tips that we believe allow us to be more attentive to this work.

Tip 1: Disaggregate Your Data

- There is danger in relying on the results of the "average" student in our analyses of results. The average student is likely reflective of majority populations. This masks the experiences of our small, and likely most vulnerable, populations.
- If possible, disaggregate within your small populations!
- Disaggregation can occur in a variety of ways, by
  - Identity characteristics
  - Student characteristics
  - Engagement (or other behavioral or perception) characteristics
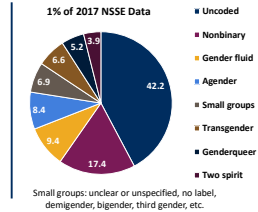 - The intersection of these and other characteristics

Tip 1: How this Can Help

- Identifying more specific information can better inform data use. It's easier to know where to start making improvements when you have a more specific direction. Improvements for small populations are likely improvements for all!
- In order to disaggregate, you need to ask for more specific information (such as sexual orientation). Seeing such questions, when written well, can send an important message to students that you value this aspect of their identity or experience.
- Talking about the experiences of often silenced students can go a long way in providing a sense of care and support

Tip 1: Examples

	High Support	Moderate Support	Low Support
Asexual			
Bisexual		+	x x x
Gay	+ +	x x x x	+ + +
Lesbian	+ +	x x	
Pansexual			
Queer	x x x x	+ + +	+
Questioning			
Another	x		+ +

+ Overrepresentation in category
x Underrepresentation in category

1% of 2017 NSSE Data

Legend: Uncoded, Nonbinary, Gender fluid, Agender, Small groups, Transgender, Genderqueer, Two spirit

Values: 42.2, 17.4, 9.4, 8.4, 6.9, 6.6, 5.2, 3.9

Small groups: unclear or unspecified, no label, demigender, bigender, third gender, etc.

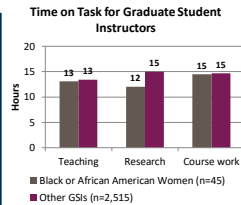## Tip 2: Pay Attention to Small Populations

- We might encounter small populations for a variety of reasons such as a low response rate, a small population from which to elicit responses, data collection methods that make subpopulation respondents difficult to contact or create difficulties for subpopulations to respond, or they just might be the populations we're interested in studying!
- Think about ways to pay them special attention:
  - Be strategic about collecting data from small groups to increase responses
  - Consider combining responses from multiple cohorts
  - Triangulate your findings with other data
  - Your small numbers might actually capture all or most of your population!
  - Reset expectations of your audience before sharing small population results

Tip 2: How This Can Help

- Just because a group is small doesn't mean we should exclude them from our reporting or disregard their experiences
- Being strategic about soliciting responses from small populations (advertising at cultural or other centers where they go, writing good identity questions, promoting the use of collected data) can go a long way towards getting buy in and increased responses
- Although larger numbers may be necessary for statistical significance and generalizability, focusing your audience on percentage differences, effect sizes, and descriptives are still legitimate ways to have conversations about small populations

Tip 2: Examples

- An institution called Allison with a question. How do we get faculty to take the results from our special population seriously with such small numbers?
- Participation in a leadership experience (n=29)
  - 9 students have or are in progress
  - 18 do not plan to
  - 2 have not decided

Time on Task for Graduate Student Instructors

	Teaching	Research	Course work
Black or African American Women (n=45)	13	12	15
Other GSIs (n=2,515)	13	15	15

Tip 3: Consider your Framework

- Often we approach data analysis without a particular research framework in mind. If we do, it might be more related to the content of the analysis (which can help you with things like choosing what variables to include) than the methods used in the analysis
- Many frameworks don't fully consider the experiences of marginalized groups or approach these groups' experiences from a deficit perspective
- Traditionally, quantitative research has been viewed as objective and without need for researcher or audience positionality, but this doesn't have to be the case! Frameworks can give guidance on how the researcher or assessment professional fits in the storytelling

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Tip 3: How This Can Help

- Your framework plays a role in how you interpret and present the data to others, it can provide you guidance on questions to ask and methods to choose
- A framework can help you focus your work and explore the data more efficiently as we often don't have the time and resources to meander around data looking for interesting things to report on
- A framework can help reset the expectations of your audience, helping them to understand the purpose and intention of your small population analysis
- Frameworks that refocus efforts on intervention and practitioner actions can help audiences think about how the results can be used

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Tip 3: Examples

- Critical quantitative framework (Stage, 2007)
  - Avoid dominant identity comparison groups
- Focus on practitioner knowledge (Bensimon, 2007)
  - Instead of focusing interventions on students think about practitioner actions
- Person-centered approaches (Malcom-Piqueux, 2015)
  - Create groups based on behavior or experiences

- The Model of Multiple Dimensions of Identity (Jones & McEwen, 2000) frameworks guided us to find this:
  - Students who are LGBQ+ and Latino are "out" to fewer people than the average LGBQ+ student
  - Students who are LGBQ+ and Asian feel a greater sense of support from their institution than the average LGBQ+ student
  - Students who are LGBQ+ and White feel a lower sense of support from their institution than the average LGBQ+ student
  - Students who are LGBQ+ and have a diagnosed disability or impairment are far more likely to have been discriminated against than other students
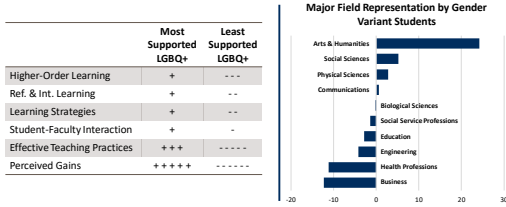

Tip 4: Rethink Comparisons and Reference Groups

- Making comparisons between subgroups is a common strategy for analyzing and presenting data. It is natural for researchers and audiences to wonder—is that "normal"? Is that high? Is that low? Is that better or worse than other students?
- Unfortunately, this may implicitly position certain groups as normative. For example, when looking at sexual orientation, straight students are often held as the norm to which other groups are compared which implies that the experiences of straight students are "normal" or what should be achieved by other students
- If comparisons are necessary, think carefully about your reference group. Even using effect coding (Mayhew & Simonoff, 2015) where groups are coded to the average may essentially compare minority groups to majority. Consider doing your comparisons within marginalized subpopulations or creating a normative reference before looking at your data

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Tip 4: How This Can Help

- Choosing a normative reference before examining data can help answer the question "is that good?" without doing any comparisons between students. If your institution decides that at least 50% of your students should be participating in internship experiences, you won't need to compare students to know if subgroups are meeting expectations
- Looking within subpopulations and making internal comparisons (if possible) can help show audiences that small populations are often not monolithic and can have a variety of experiences and perceptions
- Making thoughtful choices about the comparisons you make, particularly your choices of reference groups, can send a powerful message about our students and our beliefs as researchers and assessment professionals

Tip 4: Examples

	Most Supported LGBQ+	Least Supported LGBQ+
Higher-Order Learning	+	- - -
Ref. & Int. Learning	+	- -
Learning Strategies	+	- -
Student-Faculty Interaction	+	-
Effective Teaching Practices	+ + +	- - - - -
Perceived Gains	+ + + + +	- - - - - -

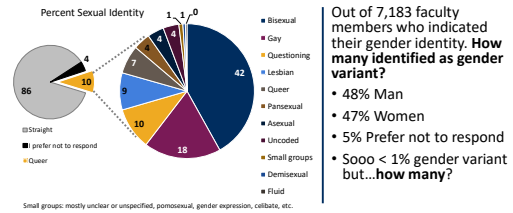**Major Field Representation by Gender Variant Students**

Tip 5: Responsible Aggregation

- Yes, in Tip 1 we told you to disaggregate.
- But sometimes disaggregation might cause more harm. Make sure that when you share data and findings that responses are not identifiable and attributed to a specific person! Ethically, you should even avoid circumstances where a small group of students could be pinpointed and have feedback used against them
- Depending on your data and research questions, you may need to use sophisticated statistical methods that require dropping especially small groups from the analyses or creating larger aggregated groups. When this is necessary, acknowledge these limitations and be open about how small populations were dropped or aggregated so that their voices are not completely forgotten
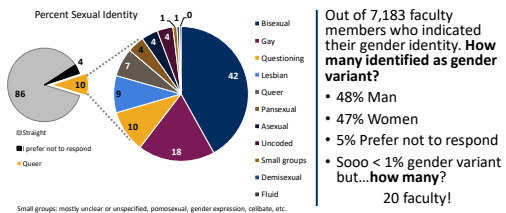
Tip 5: How This Can Help

- Masking the identifying characteristics may be less satisfying and feel impractical when trying to create change, it is better to share the experiences of a small unidentified group than it is to disregard the experiences. These findings can still be useful in starting conversations and creating change
- Acknowledging how small groups were either not included or how they were combined with other groups can help add context to findings, can bring clarity to ambiguous "other" groupings, and can be used to start conversations about how to examine the experiences of these students. Transparency in methodological choices with attention to limitations and future research plans can turn less inclusive analyses into more inclusive conversations.

Tip 5: Examples

Percent Sexual Identity

Small groups: mostly unclear or unspecified, pomosexual, gender expression, celibate, etc.

Out of 7,183 faculty members who indicated their gender identity. **How many identified as gender variant?**
- 48% Man
- 47% Women
- 5% Prefer not to respond
- Sooo < 1% gender variant but…**how many**?

Tip 5: Examples

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    20 faculty!

Discussion Questions

How can you envision using these tips at your institution?

What ideas do you have for your next small population study?

What other questions or concerns do you have about assessing small populations?

What one thing can you do when you get back to your institution to start a small population conversation?

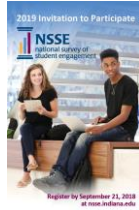**Final thoughts and questions?**

Thanks for joining us!
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2019 Invitation to Participate

NSSE
national survey of
student engagement

Register by September 21, 2018
at nsse.indiana.edu

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