An Analysis of the Methods Social Scientists Use to Study Extreme Events

Lori Peek,[1] Heather Champeau, [1] Jessica Austin, [1] Mason Mathews, [2] and Haorui Wu[3]

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American Behavioral Scientist Special Issue:
Methods Matter in Disaster Research

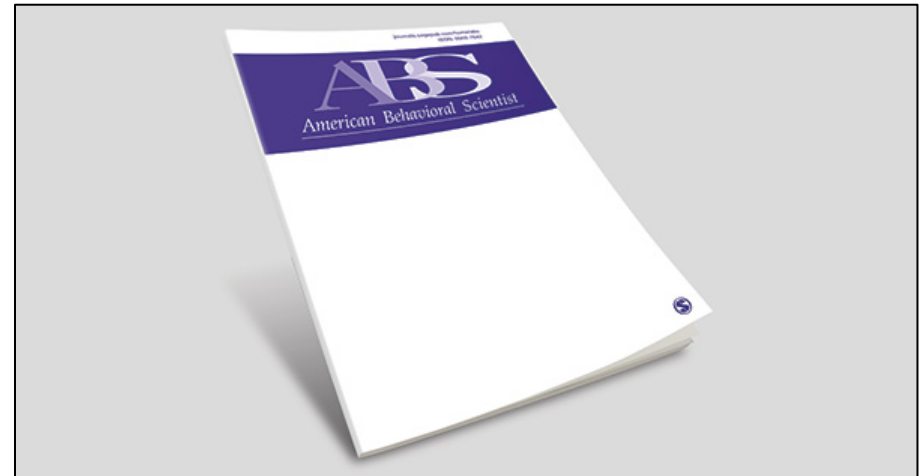*Edited by: Kelly Frailing and Bethany Van Brown*

Article

What Methods Do Social Scientists Use to Study Disasters? An Analysis of the Social Science Extreme Events Research Network

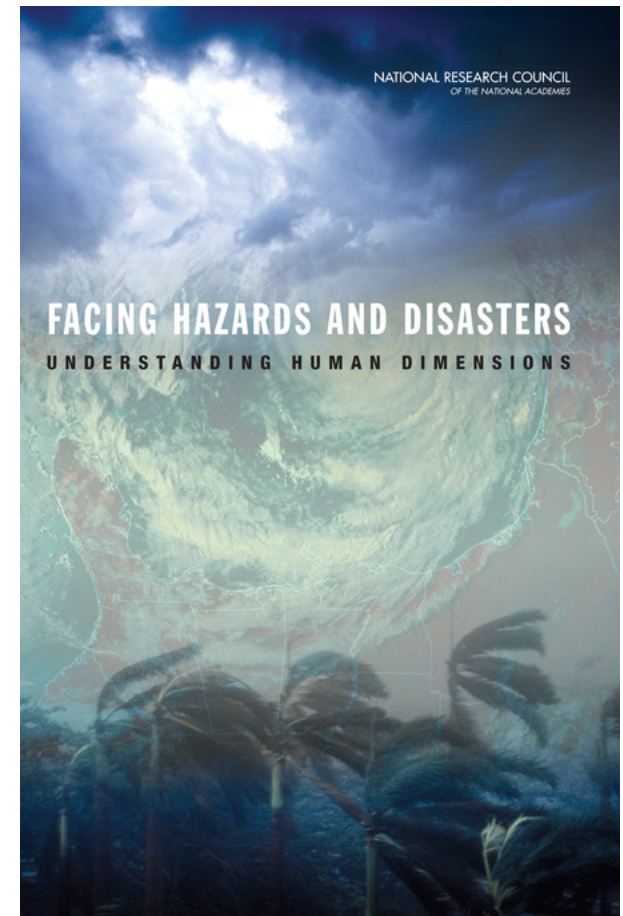Lori Peek[1], Heather Champeau[1], Jessica Austin[1], Mason Mathews[2], and Haorui Wu[3]

Abstract
Methods matter. They influence what we know and who we come to know about in the context of hazards and disasters. Research methods are of profound importance to the scholarly advancement of the field and, accordingly, a growing number of publications focus on research methods and ethical practices associated with the study of extreme events. Still, notable gaps exist. The National Science Foundation-funded Social Science Extreme Events Research (SSEER) network was formed, in part, to respond to the need for more specific information about the status and expertise of the social science hazards and disaster research workforce. Drawing on data from 1,013 SSEER members located across five United Nations (UN) regions, this article reports on the demographic characteristics of SSEER researchers; provides a novel inventory of methods used by social science hazards and disaster researchers;

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Background and Context

- The Committee on Disaster Research in the Social Sciences "*does not have a precise accounting* of the numbers of social scientists from respective disciplines currently engaged in hazards and disaster research." …

- This represents an important gap because, without such information, it is impossible to ensure that the field "*will be of adequate size, reflect the diversity of the nation, and include researchers who have both basic and applied research interests and are capable of carrying out disciplinary, multidisciplinary, and interdisciplinary research*" (NRC, 2006, pp. 319-320).

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UNDERSTANDING HUMAN DIMENSIONS

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The present research responds to that gap by summarizing the results of the first census of social scientists who study hazards and disasters.

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Data: SSEER Member Survey

https://converge.colorado.edu/research-networks/sseer

- **SSEER Mission:**
  - **Identify** and **map** social scientists involved in hazards and disaster research;
  - **Highlight** their expertise;
  - **Connect** social science researchers to one another, to interdisciplinary teams, and to communities at risk to and affected by hazards and disasters.

https://converge.colorado.edu/research-networks/sseer
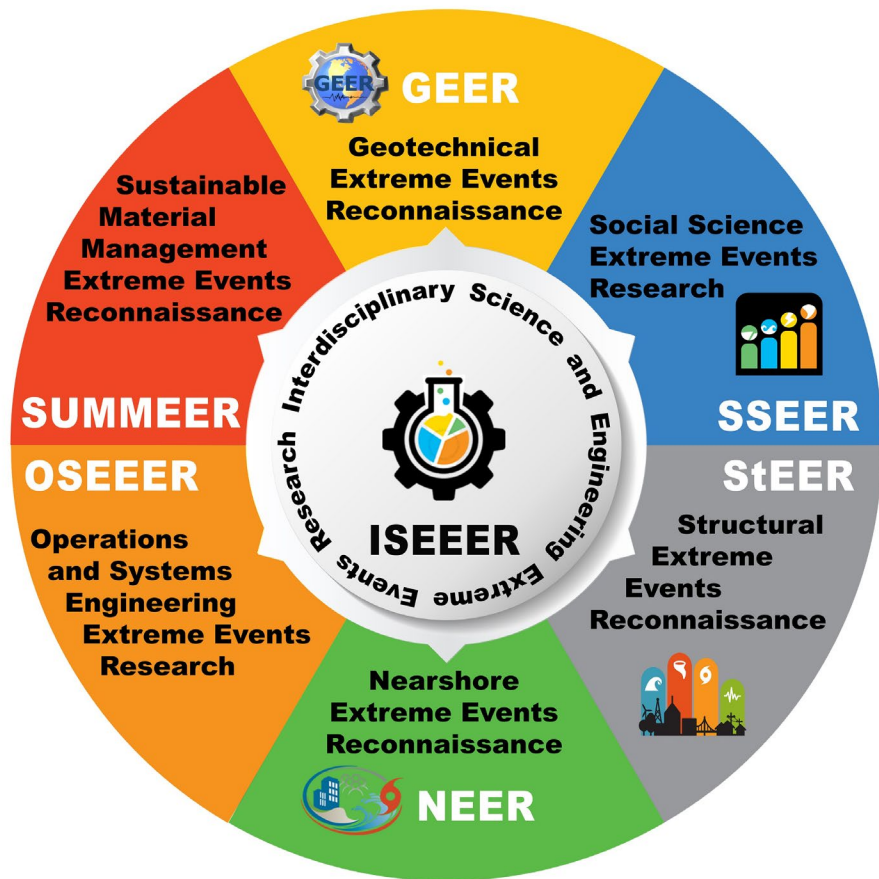
SSEER is part of a larger ecosystem of NSF-funded research and reconnaissance networks.

I'm studying the Flint Water Crisis. Who else has done work on this?

Location and Demographic Composition of SSEER Respondents

- **1,013** Respondents (as of March 2020)

- Geographic Location
- Age
- Years of Experience
- Educational Attainment
- Gender
- Race/Ethnicity

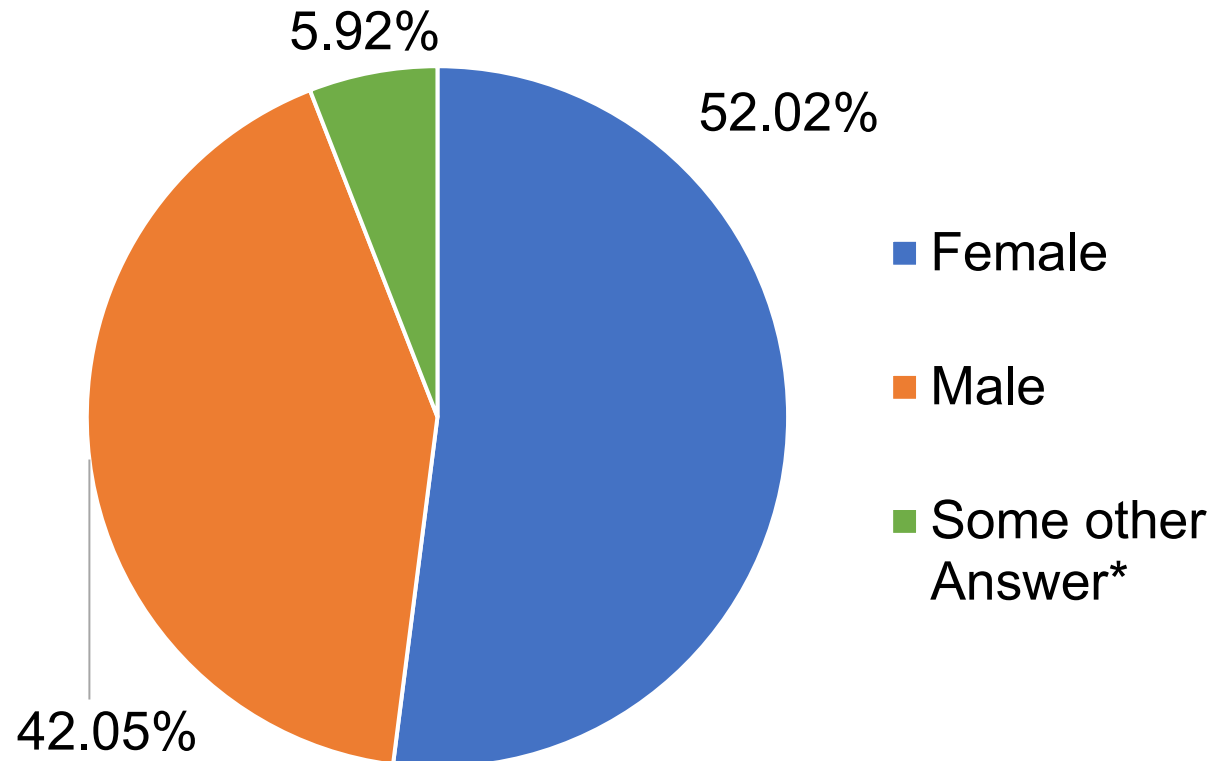University of Colorado **Boulder**

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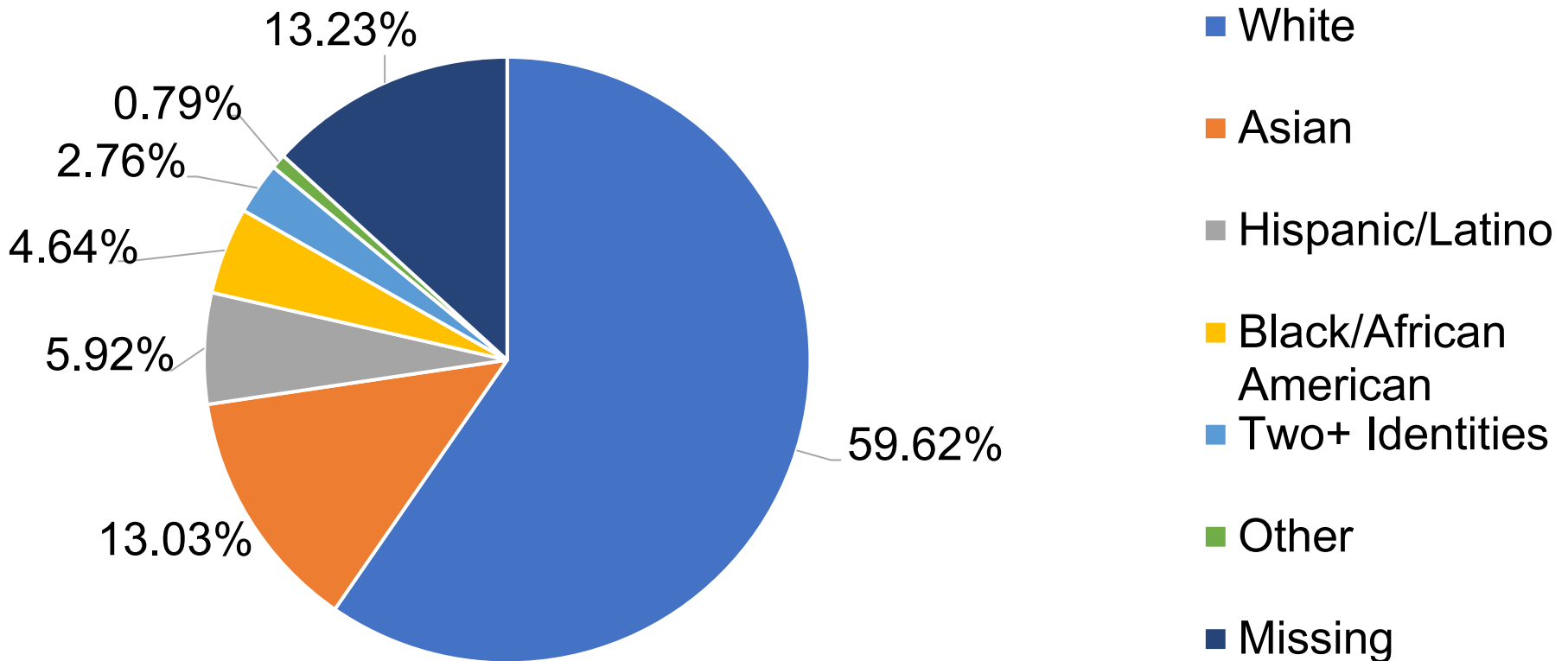
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Demographic Composition of SSEER Respondents

- **1,013** Respondents (as of March 2020)

5.92%

52.02%

42.05%

- Female
- Male
- Some other Answer*

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Demographic Composition of SSEER Respondents

- ■ White — 59.62%
- ■ Asian — 13.03%
- ■ Hispanic/Latino — 5.92%
- ■ Black/African American — 4.64%
- ■ Two+ Identities — 2.76%
- ■ Other — 0.79%
- ■ Missing — 13.23%

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Research Methods and Approaches
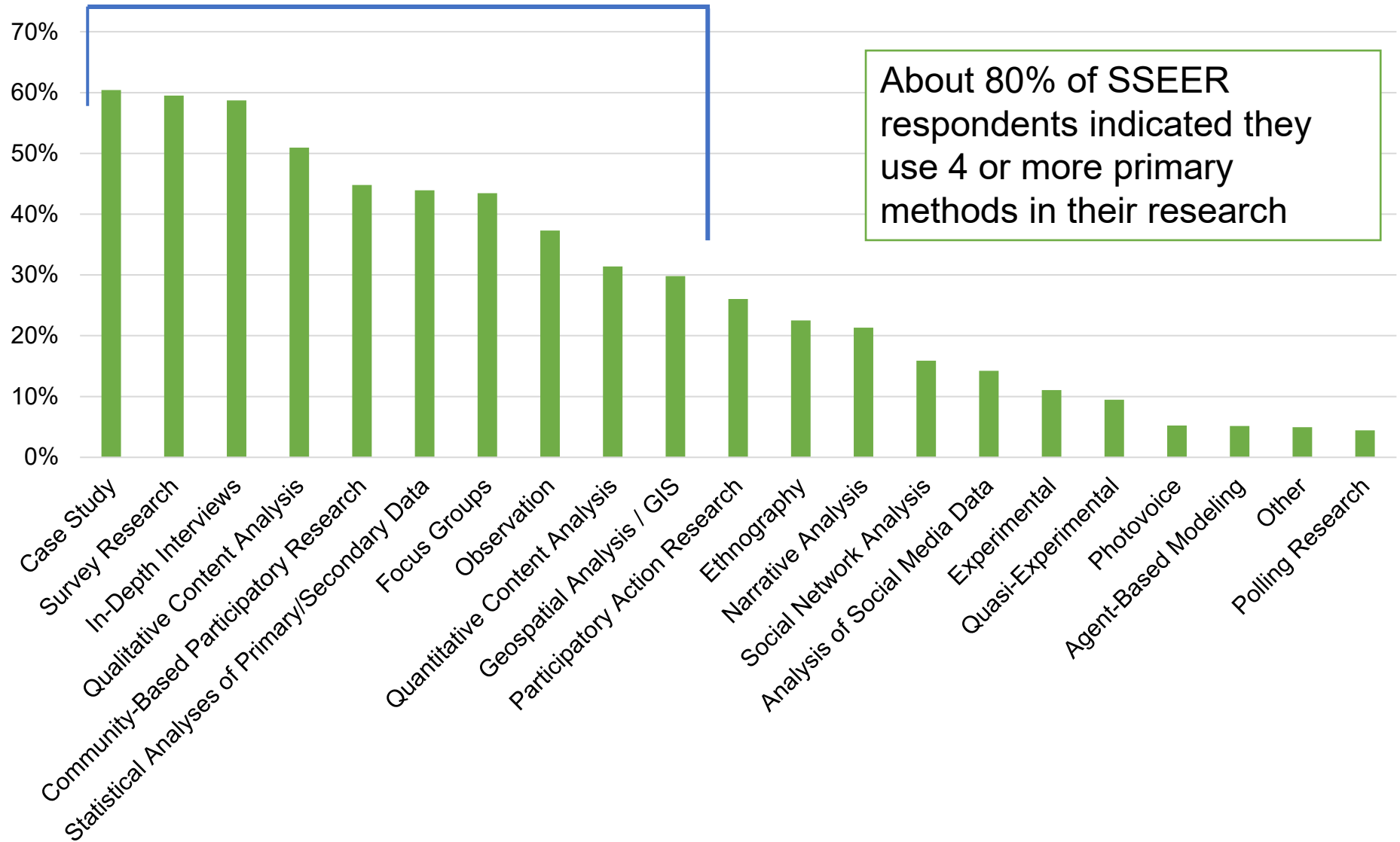
About 80% of SSEER respondents indicated they use 4 or more primary methods in their research

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How do methods vary by specific researcher attributes?

- Such as…
    - Researcher Discipline
    - Professional Status
    - Researcher Type (core, periodic, situational, emerging)
    - Disaster Phases Studied
    - Types of Hazards and Disasters Studied
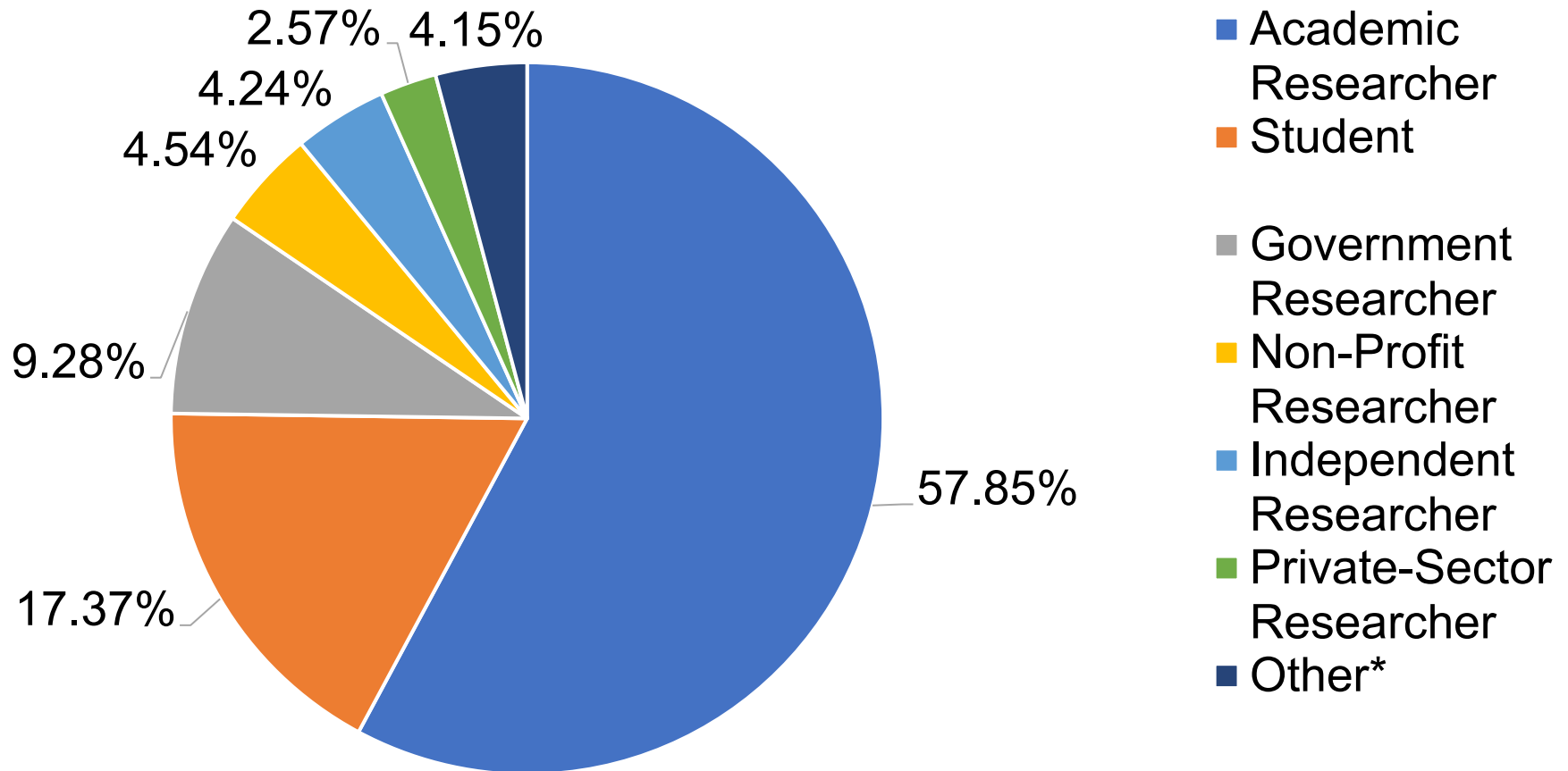
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Professional Status

Top 10 Selected Research Methods by Researcher Professional Status

	Academic Researchers	Students	Government Researcher	Non-Profit Researcher	Independent Researcher	Private-Sector Researcher	Other
Case Study	60.07	55.11	53.19	73.91	88.37	65.38	57.14
Survey Research	65.70	48.86	51.06	58.70	48.84	69.23	42.86
In-Depth Interviews	61.95	59.09	40.43	60.87	62.79	53.85	50.00
Qualitative Content Analysis	51.02	48.86	52.13	58.70	58.14	42.31	45.24
Community-Based Participatory Research	44.54	43.75	39.36	63.04	44.19	46.15	45.24
Statistical Analyses of Primary/Secondary Data	50.85	38.64	29.79	34.78	32.56	42.31	23.81
Focus Groups	45.22	33.52	41.49	56.52	41.86	53.85	45.24
Observation	35.67	32.95	38.30	47.83	44.19	42.31	54.76
Quantitative Content Analysis	33.96	28.41	28.72	34.78	20.93	26.92	23.81
Geospatial Analysis / GIS	30.03	35.80	29.79	23.91	13.95	30.77	23.81
Total N by Professional Status	586	176	94	46	43	26	42

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Conclusion

- Teams of social scientists have been studying disasters systematically since late 1940s

- This research responds to increasingly urgent calls to learn more about the composition of the research workforce
  - Size of the workforce (best guess estimates to 1,013 identified researchers)
  - Functional and demographic diversity of the field
  - Disciplinary and methodological background and training
  - Researcher involvement in hazards and disaster research

- Implications for research training and mentoring investments

- **SSEER Goals:**
  - **Amplify** the contributions of social scientists,
  - **Advance** the field through expanding the available social science evidence base,
  - **Enhance** collective well-being.

Thank you!

Lori Peek*, Heather Champeau, Jessica Austin, Mason Mathews, and Haorui Wu

Contact: Lori.Peek@colorado.edu

More information: https://converge.colorado.edu/research-networks/sseer