

Taking a Closer Look: The Importance of Data Disaggregation in Survey Analysis

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Survey Research in IR Today



- Often a substantial task for IR professionals
- Important to provide student and staff attitudes, perceptions, use of services (if designed properly)
- Can be a good source of information for policy makers
- Can help position IR to be a valued member of the decision support team



However...

When tasked with the handling of survey analysis, IR professionals have profound responsibility

- Are respondents being accurately represented?
 - If not, who is being left out?
- Are there actionable recommendations grounded in the survey data?

Today's session will:

- Speak to the value of large-scale survey research
- Pay particular attention to culturally responsive assessment literature and its influence on all aspects of the survey research process
- Demonstrate how disaggregated data can yield more actionable findings across historically underrepresented populations
- Allow the audience to share experiences with their own survey research analysis projects



The WREA Project

- NSF-Funded multi-Institutional Grant to **examine the effect of students' access** to work-related experiential activities (WREAs)
- An important facet is **geographic location**
- Engineering and computer science students at six institutions in GA
- Mixed Methods design to examine perceptions and experiences from students, career center directors, employers, and company recruiters
 - Quantitative survey data from students in spring 2021 and spring 2022
 - Individual interview data from career center directors (2021) and sample of students (2022)
 - Focus group interviews with employers and company recruiters (2021 and 2022)
 - Observations of career fairs (online 2021 & 2022)
- Because project is grant-funded, we had the luxury of working with an external survey center who would assist in the development and administration of the surveys

What is data disaggregation?

- Practice of breaking data into smaller, more manageable/meaningful subpopulations
 - Examples include race, gender, socioeconomic status, etc.
- Gained significant traction in the last decade as data-informed decision-making became more important
- Disaggregation is employed across disciplines due to its usefulness

Origins of Data Disaggregation

- Much of this work is grounded in culturally responsive assessment (Montenegro & Jankowski, 2017).
- Institutions are responsible for understanding their students and the cultural context that they bring with them
- Goes beyond “diversity” and instead looks at the historical implications of students’ backgrounds (Dowd & Bensimon, 2015)



Why is it Important?

- The actual work involved in data disaggregation is not complicated, but has major results
- Interventions that are implemented based on big-picture data will likely fall short for students who do not have the same experiences as the majority

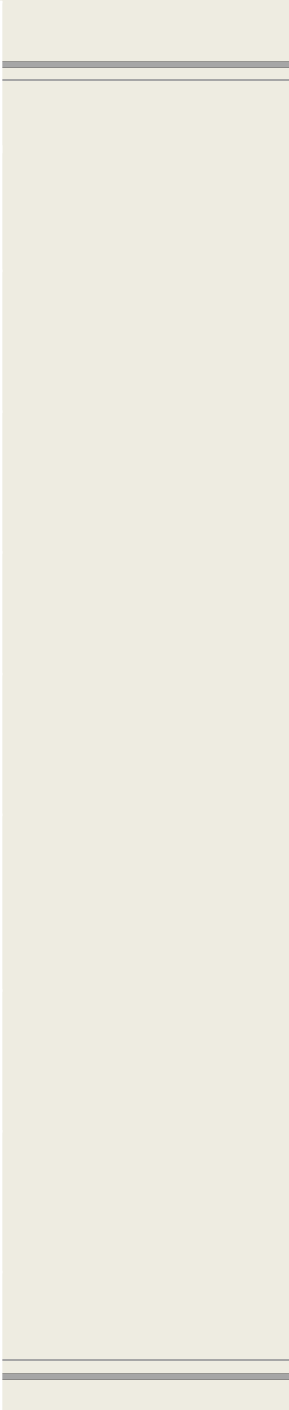
Equity Implications

- Survey Design
 - What questions are included?
 - Are questions worded in a way that students can understand and answer accurately?
- Data Analysis
 - Are we responsibly thinking through the data beneath the surface level?

Survey Data

	Institution A	Institution B	Institution C	Institution D	Institution E	Combined
Sample Size	4228	16449	999	226	236	22138
Undeliverable	1	16	0	0	0	17
Adjusted Sample Size	4227	16433	999	226	236	22121
Responses	448	2153	153	13	24	2791
Excluded	7	7	1	0	11	26
Valid Responses	441	2146	152	13	13	2765
Response Rate	10.4%	13.1%	15.2%	5.8%	5.5%	12.5%

	N	Percent of valid responses*
Gender		
Male	1118	55.8
Female	884	44.2
Race		
White	903	43.9
Black or African American	166	8.1
Hispanic	166	8.1
Asian	659	32.0
Other	163	7.9



	N	Percent of valid responses*
First Generation		
Yes	312	15.3
No	1721	74.8
Major		
Computer Science	733	31.9
Engineering	1566	68.1
Financial Aid		
Need-Based	458	22.5
Merit-Based	1264	62.1
Educational Loan	504	24.8
No Financial Aid	505	24.8

Student Responses by Race

Racial Category	N	Percent of Valid Responses
Asian	659	32.0
Black or African American	166	8.1
Hispanic	166	8.1
Multiracial	87	4.2
Native Hawaiian or Pacific Islander	1	.0
White	903	43.9
Unreported	75	3.6

Racial Differences

- Overall, Asian students had the lowest WREA participation rate
- White students reported using their personal network to find WREAs at higher rates than any other racial category
- Students from all underrepresented groups were more likely to be unsure of their major's requirements in regard to WREAs

Low-income Students

- Far more likely to be first generation students and to have student loan debt
- Began thinking about WREAs at a later point in their academic career
- Did not have the luxury of using personal networks to secure WREAs
- Participated in WREAs at a lower rate (46.8% vs. 58.3%)

Institutional Differences

- Students had different expectations for geographic components of WREAs
- Students at certain institutions benefitted from structures that allowed them to navigate opportunities easily
- Students participated in WREAs at different rates

Computer Science vs. Engineering

- Computer science students placed higher value on remote work and the setting of that work
- Engineering students responded that they developed more as leaders and cultivated professional interpersonal skills
- Computer science students leaned more heavily on online career platforms when seeking out WREAs

Gender

- Because this was a STEM study, we paid particular attention to gender
- For the most part, differences across most variables were negligible
- Women were less likely to report finding WREAs on their own, but were more likely to utilize campus career centers than male students

What do we do now?

- The results reported here are not overly sophisticated
- The disaggregated results were given to institutional partners in the hopes that they are able to identify opportunities on their campus
- Use the findings to guide our project moving forward

Limitations

- Low statistical power
- How much disaggregation is enough?
- Context matters
- Privacy concerns

Your Experiences with Survey Research



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- When you design a survey, how do you think about the data you will need to collect?
- What data disaggregation techniques have you employed?



Good Practices For Survey Research in IR

- Understand the literature on survey research, consider relevant theory
- Be knowledgeable about the topic, research design, and analytic methods
- Consider Survey Format
 - Mode of delivery- internet access, accessible across phone & laptop
 - Wording - succinct length of survey, easily understood language
- Communicate with stakeholders to ensure you are collecting appropriate data
- Have a plan and then carry out accurate analysis and reporting

Questions? Comments?

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Thank you!

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