

(UN)PRIVILEGING THE MAP: A COMMUNITY COLLABORATION IN UNDERSTANDING ECONOMIC SECURITY

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Abstract

The Mississippi Semester Project is a collaborative, critical GIS project bringing together members of Barnard College's Empirical Reasoning Center, History Professor Premilla Nadasen, undergraduate students, and the Mississippi Low-Income Child Care Initiative (MLICCI), an advocacy organization for women on welfare and child-care providers. This project developed out of the needs of MLICCI to understand the economic security of women in Mississippi and sought to move beyond the limitations of current analyses on poverty. Measuring economic security has often been synonymous with measuring poverty and most studies on poverty, even critical studies, privilege data and/or maps and limit their analysis to either gender or race. We utilized mapping as a way to surface inequities, but we also prioritized the lived experiences of low-income women in Mississippi and worked with them to redefine economic security to include variables such as education, unemployment, and health insurance. Complicating the narrative around race and gender, we incorporated Kimberlé Crenshaw's theory on intersectionality and mapped the effect of both race and gender on women's economic security. This project provides a framework for developing critical GIS projects that are participatory, incorporate nuanced understandings of inequality and power, and that value oral histories and lived experiences. An experiment in pedagogy, the project also provides a framework for teaching students, primarily in the social sciences, how to incorporate quantitative analysis into advocacy work, while still utilizing qualitative analysis and elevating people's stories.

Introduction

Geographic Information Science (GIS) has the ability to convey complex, multidimensional information in simple and visually compelling ways. For this reason, we are seeing a growing trend of GIS being utilized in history departments. However, due to the traditional methodological conventions of the discipline, the adoption of GIS is still slow. Incorporating GIS into their research or courses requires faculty to pursue interdisciplinary collaboration and potentially change their pedagogical approaches. History Professor Premilla Nadasen at Barnard College decided to take on that challenge. She reached out to the college's Empirical Reasoning

Center (ERC), which provides the Barnard community with support services for data analysis. Part of the ERC's mission is to champion such partnerships and encourage the use of data so that faculty can expand the possibility of what they teach, and thus ERC staff readily agreed to collaborate. Nadasen created the Mississippi Semester Project in partnership with the Mississippi Low-Income Child Care Initiative (MLICCI), an advocacy organization working to strengthen women's economic security in Mississippi. We (Nadasen, the ERC, and MLICCI) aimed to develop an economic security index focusing on women, understand its spatial distribution, and aid MLICCI's work in policy formulation. We planned to move beyond current definitions of economic security and were intentional in our aim to bring the community into our decision making. Together, we set out to develop a project that made use of GIS alongside critical theory, landing ourselves in the fields of critical GIS.

Critical GIS allows us to utilize mapping as evidence, to make visible inequities otherwise rendered invisible. Used towards radical aims, critical GIS offers us potentials and frameworks of power and inquiry that traditional applications of GIS do not grapple with. However, critical GIS also makes the map and its own framework a space for interrogation. Critiquing the methodology of GIS is inherently what it means to do critical GIS (Wilson 2016, 286). As we worked on the Mississippi project, we grappled with these tensions and it was in so doing that we were able to envision our final product. In this paper, we use the project as a case study to showcase a framework for critical GIS in practice. We walk through the process of developing an economic security index, discuss the limitations we found at each step, and the methods we used to mitigate them.

Background: A Course on Mississippi

The project spanned over two iterations of a seminar, "Mississippi Semester: Child Care, Race, and the History of Welfare." The course was designed to foreground MLICCI's needs rather than those of students, or our own (Nadasen 2019). For the first iteration of the course, the project was split into three parts: define economic security, teach students how to perform data analysis in order to develop the index, and teach students GIS to visualize variables that define the index. Throughout the process, we emphasized collaboration, laying the initial framework for a critical GIS project. We worked with students to define and develop an index together, rather than having predetermined concepts for students to apply. The collaboration also extended to Mississippi residents, who we engaged with as research partners rather than as research subjects. We visited Mississippi multiple times and spoke to MLICCI's partners and low-income women during that time. By facilitating a participatory process, we challenged the notion of using critical GIS to "help" people. Rather, we were working collaboratively with the community to support and enhance work already being done.

Defining Economic Security and Developing the Index

The first step of the process was defining economic (in)security. We wanted to reformulate current definitions of economic security, which rely mostly on income, because income alone would not capture the various ways in which economic security is experienced. This questioning of preconceived notions was a core part of our critical GIS framework. Theories and terms

developed historically may be and often are inadequate, requiring new understandings in the current context. Thus, we sought to develop a multidimensional definition that understood economic security as having a “living wage” and the capability to actualize life plans more broadly. Our initial list of indicators reflected our multifaceted understanding of economic security: earnings, public assistance, poverty rate, education, health insurance, and others. Determining which variables to keep on this list brought us to other tensions and considerations.

One consideration was our commitment to an analysis that explored how economic status is differentiated among genders by race, drawing on Kimberlé Crenshaw’s theory of intersectionality (1989, 149-150). Crenshaw describes the social construction of multiple identities as overlapping systems of discrimination. Multiple studies on economic security exclude race as they conduct gender-based analyses (California Budget and Policy Center 2016, Mason 2013), but we believe conversations about economic security in the United States should be framed within the context of race. Working with these nuanced understanding of inequality and power was a core aspect of our critical practice. This approach did not come without its challenges. Most census data is stratified by either race or gender, but not by both, leading to a smaller list of variables for us to utilize. The final process of determining variables was during our trip to Mississippi. We interviewed low-income women and other practitioners, asking them to reflect on how they’d define economic security. Through our work, we realized our index was missing at least two facets of economic security for women in Mississippi: access to transportation and childcare.

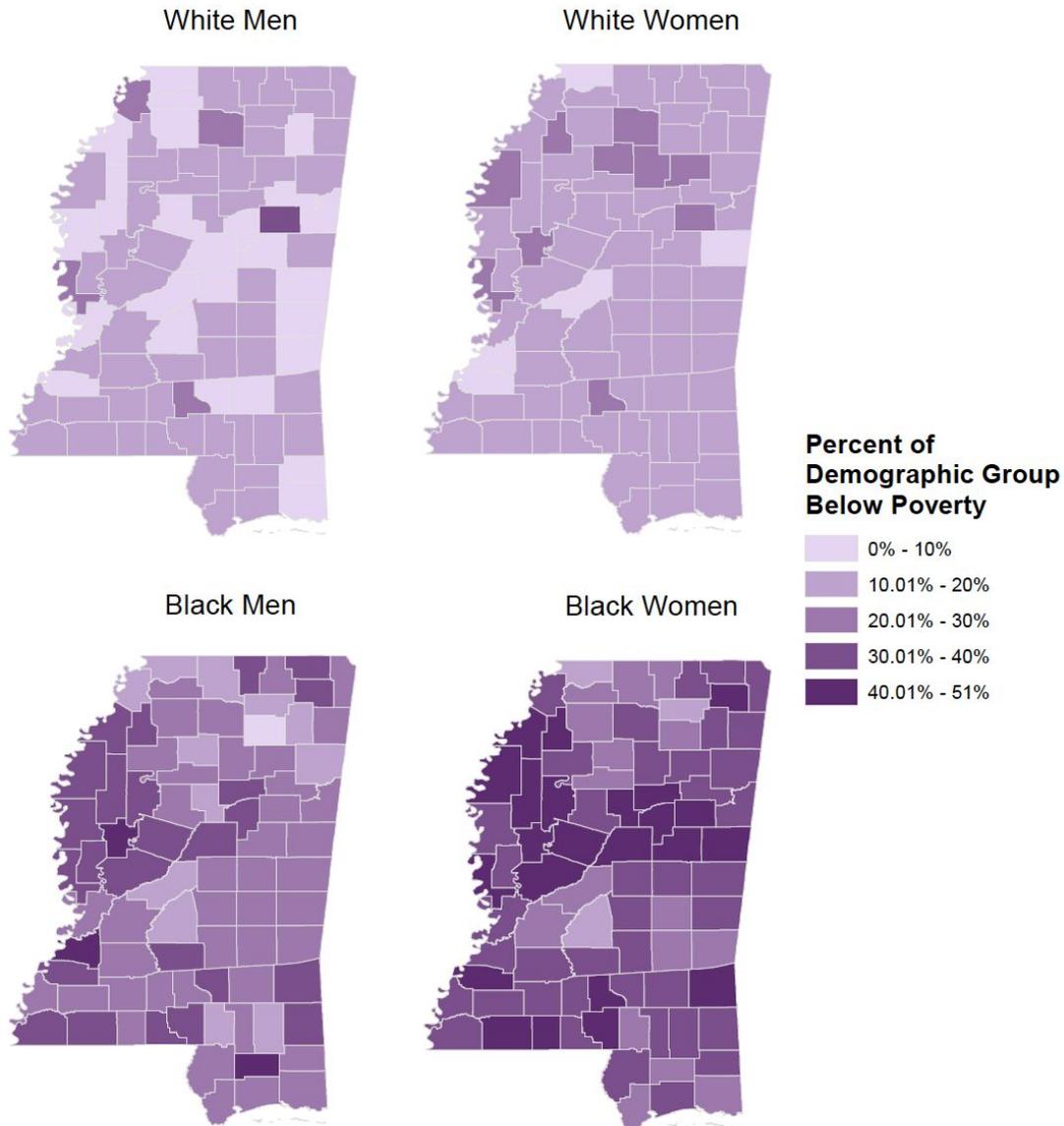
Another complication was determining not just which variables to include, but also how to weigh each indicator in the index. We decided to determine weights using community input. Students in the second iteration of the course learned about survey methodology and questionnaire design from the ERC. With guidance from MLICCI, we drafted a questionnaire designed to understand respondents’ views on the primary factors of economic insecurity. Through advice from experts in the field and our specific mission to focus on women (particularly mothers), we chose to survey child providers, who, in Mississippi, have extensive knowledge on issues that mothers of the children in their center face. Through the survey, we learned that child care providers think certain variables (e.g. lack of availability of well-paying jobs, debt, etc.) are the primary causes of economic insecurity when compared with other variables (e.g. educational opportunities). We also learned that we should differentiate between access to and cost of child care. Many child care providers have empty spots in their centers, but parents cannot afford to pay for childcare, so cost is the restricting factor rather than access.

Mapping Indicators

To make sense of all our indicators, we utilized GIS, which began to surface patterns in the data. Figure 1 reveals that black women are most affected by poverty. It highlights the limitations of exploring gender absent race. Black men face higher rates of poverty than white women, but this would be rendered invisible if aggregated with data on white men. Maps such as these have the potential to capture the attention of policy makers and legislators that MLICCI works with. The power granted to maps and data, which in many cases can and has led to the reinforcement of

oppressive structures, is also the reason why they have the potential to be used to bring attention to those oppressive structures.

Poverty in Mississippi



0 100 200 Miles

Source: American Community Survey 2012 - 2017 5 Year

Made by Fatima Koli, 2019

Figure 1. Poverty for Demographic Groups in Mississippi at the county level.

We limited our analysis of race to the Black and white population because Mississippi has very low percentages of other race(s), which results in high margins of error in the data for any variable. We limited our analysis of gender to men and women due to Census data categorizations, although we recognize that there are a number of gender(s) not represented here.

Through a critical lens, however, the maps have shortcomings. By aggregating statistics at the county level, they flatten experiences. This is also the inherent problem with indices, reducing complexity to a single value. Janine Ko, a student in the course, captured our perspective on this: “An index is, at its core, an abstraction, a flattening tool. It takes as input a spreadsheet of different social indicators and returns to us a single normalized list of counties ranked from “most” to “least” economically secure...Even as we settled on our five indicators, we found powerful counternarratives that complicated the importance we placed on each one” (Ko et al. 2018). Our discomfort, stemming from the inherent nature of an index and the maps, led us to question the privileging of maps and data and we decided to expand the project with a qualitative component by conducting oral histories.

Oral Histories

Through the oral histories, we hoped to capture the complexity of being economically insecure. We learned about the process and ethics of conducting oral histories from workshops with Professor Amy Starecheski, Director of Columbia University’s Oral History Master’s Program. We conducted 8 one-on-one oral histories. Interviewing these women allowed us to understand the lived experiences of low-income women in Mississippi, giving us further insight into the connected nature of the variables we were exploring (Figure 2). For example, one participant spoke about a time when they could not afford childcare. They couldn’t leave for a job interview because of that and thus, could not earn enough to provide for their family. This is a story that we heard often that cannot be captured in the data. To identify themes in the oral histories, we used a technique for coding text that relies on human interpretation (i.e. human coding). An ERC intern established 8 categories for themes including: motherhood, health, education, interpersonal relationships, employment, understanding structural issues, economic status, and transportation and 33 subcategories (Figure 3).

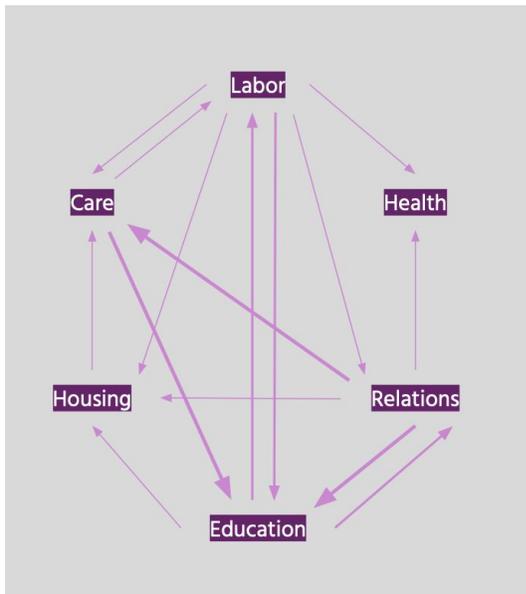


Figure 2. Map of thematic connections from the first 28 minutes of one oral history. The thickness of the line corresponds to the number of times the connection came up during the interview.

| Interpersonal Relationships | Employment | Understanding Structural Issues | Motherhood |
|---|--|--|--------------------------|
| Romantic relationships | Type of employment | Impact of race relations | Children's opportunities |
| Family support | Sustainable wage | Encounters with gender discrimination | Children's education |
| Availability of community support (outside of family) | Availability and process of employment | Migration to Mississippi | Affordable childcare |
| Composition of household | Job benefits | Generational poverty | Access to childcare |
| | Scheduling conflicts | Perceptions of structural impact on individual | |
| | | Understanding of economic systems | |

| Care | Transportation | Education | Financial Situation |
|-------------------------------------|----------------------------------|------------------------------|---------------------------------|
| Care and treatment for disabilities | Availability of transportation | Educational background | Relationship to debt |
| Affordable healthcare | Quality of public transportation | Credibility of certification | Financial literacy |
| Domestic labor | Affordability of transportation | Impact of education | Impact of government assistance |
| Mental health/motivation | | | Type of assistance received |

Figure 3. Categories and subcategories developed for coding oral histories.

Final Result – Data Portal

Cognizant of the many analytical decisions we'd made, we were tasked by MLICCI to democratize our analysis. For that purpose, we've developed our final aspect of our project, a web portal to be launched November 13, featuring our index, the stories we collected and a data portal with 70+ variables related to economic security in Mississippi (variables beyond just those in the index) stratified by race and gender when available. Users can map variables of interest by county, compare across demographic groups, and compare variables to one another (Figure 4). The portal we've created is reimagining how data on inequality is mapped and we will be making our program free and open source in the hope that others will build such platforms for other areas. Users can view stories and use functionality on the site to highlight topics of interest

based on our coding scheme (Figure 5). The data portal and the stories page have annotations that link them to one another where applicable so that those who visit a story are guided to view related maps and those who visit the maps are guided to view stories mentioning those variables. This functionality is vital because of our emphasis on the value of mixed-methods.

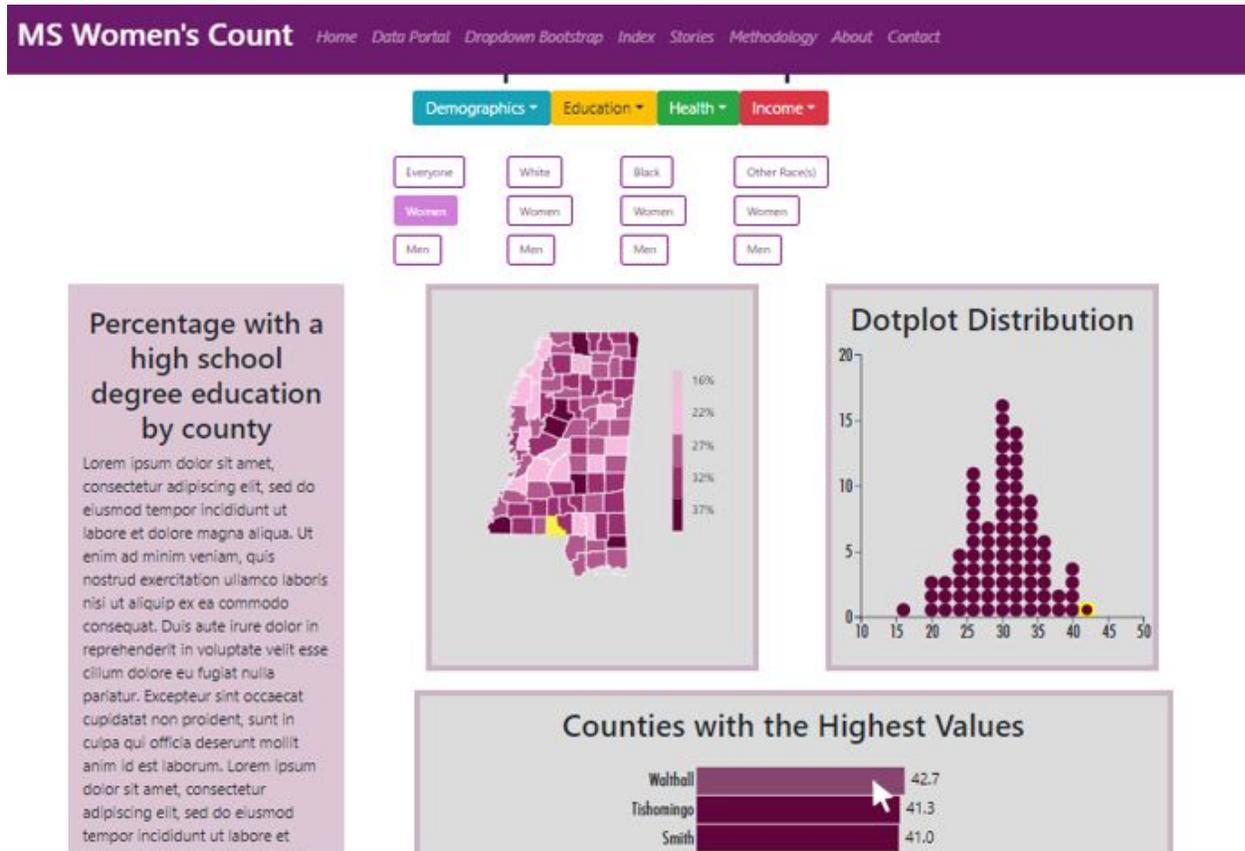


Figure 4. Data Portal visualizing Women's Educational Attainment. Pages are still in development so there is default "Lorem ipsum" text in parts of the site.



Kandy Nickles

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| | |
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| Interviewer | Could you please just tell me a little bit about yourself? Maybe say your name again and your background. |
| Kandy | <p>My name is Kandy Nickles. 41. I'm Hispanic. I'm originally born and raised in California and I moved out to Texas.</p> <p>I went to school, studied in school in San Marcus and then to start building my foundation, I moved to Houston and started working.</p> <p>I lived out there for the last 14 years and then I had a little girl in 2011 and I was with her father then.</p> <p>I had my own business. I was doing a house cleaning business and residential and a whole lot.</p> <p>I went to medical school in billing and coding and graduated. I went to a trade school and got business and office and then took a semester criminal justice and this school that I was going through paid for the semester at the University and Texas so I'm kind of a little bit certified in a little bit in everything.</p> <p>Growing up my dad's a general contractor so he did concrete and fencing and building. My mom she's always been a full-time mom of seven. I'm number four so I got three older sisters and two younger brothers and a sister.</p> <p>But thankfully we were not in, how I guess you would say, poverty.</p> <p>My dad had his own business and my mom did all the accounting and took care of all the paperwork. So we were okay. Then we made them move my fourth grade year back to California. We were living in Texas, made it back to California, and then I ended up, when we moved back to California I was born in California then we moved to Texas when I was a little girl and then I was in Texas all the way up until my 4th grade year, then my parents, we packed up and moved back to California and I stayed there until I turned 18, just about.</p> <p>Then I went off to school and to a dorm. First day that I turned 18 on my 18th birthday was my first day at the school. I was sitting and we were in a big old class first day orientation and I was nervous because I'd never been away from home. I never was. I was sheltered you know and so it was new to me. And then I sat there for two years two and a half years and I got a lot of experience, that's when I was able to take a semester of criminal justice because I got into the legal field and I wanted to be an FBI agent. That was always my thing. Federal investigations services but then when I, I did get into it it was totally not what I thought. Not like TV. So I ended up taking office in business technology learning computers and whatnot.</p> <p>So with that I ran and graduated and stuff and then I moved to Houston that's where I worked for some private investigators for a while and then I did a little bit of that litigation, files and dealing with attorneys and everything and then I stopped working and then I got into sales, cars sales, and there was a lot of money and just. A lump sum of money. And at the time instead of doing hourly by the by the hour or you know. And then eventually I ended up getting my own business. I had my own business for like, probably like nine years.</p> |

Figure 5. Story Page with sentences related to Employment highlighted.

Conclusion

Through the project, we've gained two key insights that we believe practitioners of critical GIS must continuously reflect on. The point of critical GIS should be to use mapping as a challenge to power and empower communities, but at some point, the map has become the end goal rather than a tool. Many of our projects end with the uncovering of inequality, with power ascribed to the map. There is this fetishizing of the map and of inequality taking place, a belief that mapping inequality is radical in and of itself. However, uncovering inequality has limits which we must contend with. As an example, there are countless examples of police brutality, but they are not enough to bring about the conditions of change. So as doers of critical GIS, we must continuously ask ourselves if our practices are creating the knowledge by which communities can build power. How the maps we create will be used afterwards should be just as important as the cartographical and analytical decisions we make.

We must also be careful that our work is not being co-opted. Are we helping communities or working with them? Are we ensuring that we are allowing communities to lead? Who is benefiting directly from the work? And this question is not limited to whether the community one works with is benefitting. We must also think about the people working on the project who will benefit as these projects get added to resumes, cv's, and portfolios. Are people of color, people from the communities we are working with part of that group? Not only is this about challenging the dynamic of white scholars benefitting from working on research with marginalized communities, but about the quality of the work. Those in our group who had experiences with economic insecurity were able to relate and understand some of the complicated decisions women in Mississippi talked about that seemed surprising to those without that experience. The women we interviewed were also immediately more comfortable speaking

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to Black students in the class. Creating spaces where people feel comfortable is an integral part of a participatory project. Communities should feel comfortable providing feedback, even feedback that may seem to challenge participants of the project who may have institutional power.

In conclusion, the final project was only possible because we continually questioned our methodology. Remembering not to fetishize the map, we've created a product that provides insight into economic security in Mississippi and has already started being used by MLICCI and in its advocacy work. Seeing the outcome of our framework, we believe the questions we've raised should be asked by practitioners throughout their research process as well. By bringing these questions into their work, we believe and hope practitioners (including ourselves) will have a greater chance of actualizing the liberatory aims of critical GIS.

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