Introduction to Qualitative Research Methods

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Today's Presentation Overview

- Nature of qualitative work – worldview and assumptions
- Types of research suited to qualitative approach
- Design
  - Sampling
  - Data Collection and Management
  - Analysis
- Practice
- Writing up results

What is Qualitative Research?

- Research using non-numeric data
    - Spoken words (interviews, stories)
    - Written documents (essays, applications, open-ended survey responses)
    - Images (drawings, photographs, maps)
    - Direct observations

Qualitative research

- Iterative approach to data collection and analysis

- Focus on individual meaning, diversity, variation

- High value placed on rendering the complexity of information

- *"Qualitative description, using qualitative methods, explores the **meanings, variations, and perceptual experiences** of phenomena and will often seek to capture their holistic or interconnected nature. Quantitative description, based on descriptive statistics, refers to the distribution, frequency, prevalence, incidence, and size of phenomena... **The choice of quantitative or qualitative depends on how one wishes to understand** and characterize the norms of interest."*

  - *- Doing Qualitative Research Crabtree and Miller, 1999*

Misperceptions of Qualitative Data

Exercise 1: Participant Observation

https://www.youtube.com/watch?v=IZThS14Xqco

Descriptive Research – Qualitative and Quantitative

Aim	Analysis Objective	Research Question
Identification - Qualitative	Name	What is this? Who is this? What is happening?
Description	Qualitative Description	What is the nature of this? What is important here? What are the variations? What is the meaning?
	Quantitative Description	How many? How much? When? Where? What size?

Adapted from Crabtree & Miller, 1999

Explanatory Research – Qualitative and Quantitative

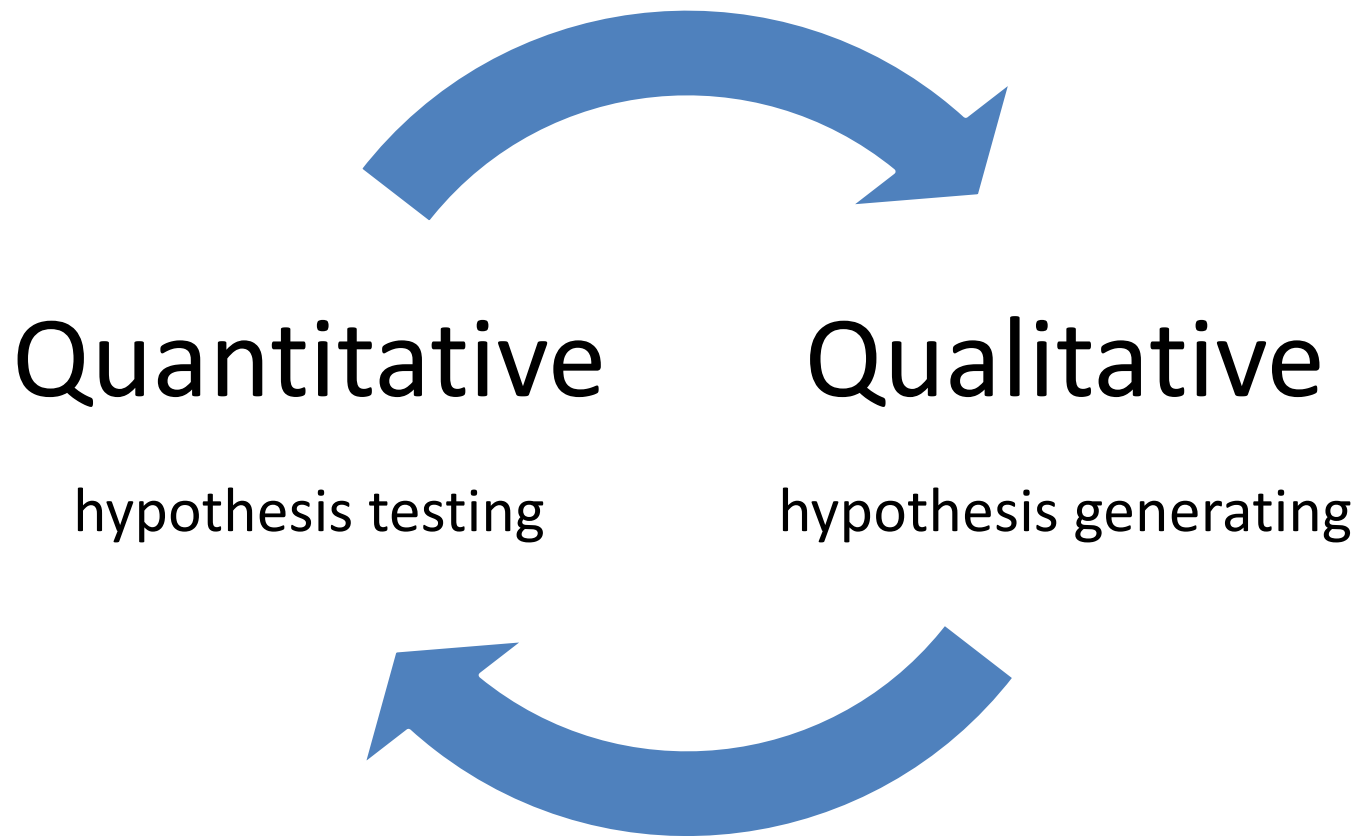| Aim	Analysis Objective	Research Question
Explanation	Interpretive explanation (qualitative)	How patterns exist? How do phenomena relate to one another? How do they differ? How does this work? How did this happen?
	Statistical association (quantitative)	Does variable X relate to variable Y? What are the measurable associations between phenomena? When this happens, how often does that happen?

Adapted from Crabtree & Miller, 1999

What are the associations and explanations?

Intervention/Evaluation Research – Qualitative and Quantitative

Aim	Analysis Objective	Research Question
Testing predictions (evaluating interventions)	Evaluation of intervention (quantitative)	Is A more effective than B? What A is implemented, what is the effect on C?
	Evaluation of intervention (qualitative)	What difference does this intervention make? Are there unexpected outcomes? Does the intervention fit other circumstances? Are there unseen relationships or variables?

Adapted from Crabtree & Miller, 1999

Iterative Research Process

Quantitative

hypothesis testing

Qualitative

hypothesis generating

What are the strengths of qualitative research?

- Discovering new things
- Understanding issues more deeply, in greater detail ("granularity")
- Generate hypotheses
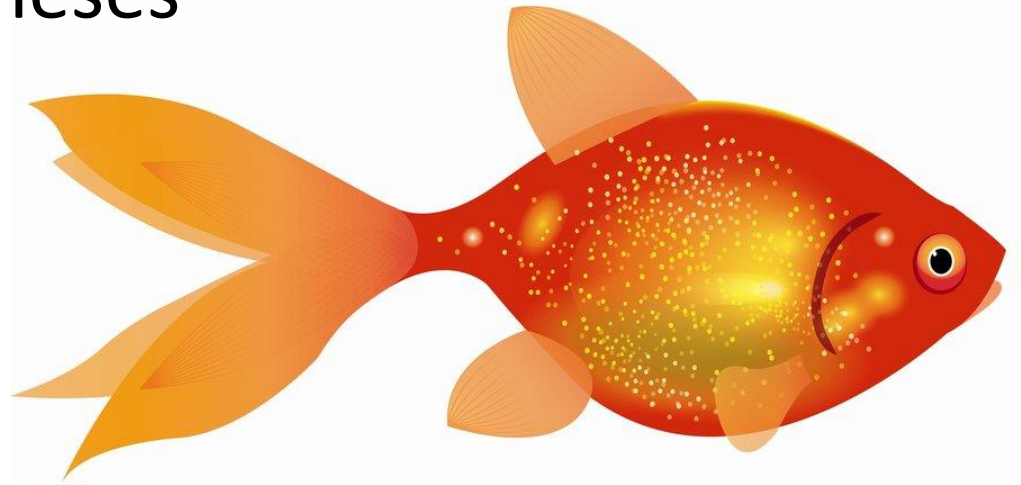
What are the Weaknesses of Qualitative Research?

- May not be generalizable

- Subject to interpreter bias*

- Difficult to establish causality*

- Doesn't give quantitative relationships (how big, how many, how much)

- Time-consuming analysis

*also true of quantitative research

Bottom line: What is the best method for your research question?

Design Considerations

- Small sample size is typical

- Consider how the participants would best discuss this issue – is this an individual or shared experience?

- Interviews take skill to administer; focus groups even more

- Written responses (essay questions, open-ended survey answers) are easier to manage but data collection is less flexible

Identifying Participants

- Focus on **purposeful sampling** (sometimes called "targeted" sampling)
- **Random sampling** – generally not ideal
- **Snowball sampling**
  - Useful with a difficult-to-access population
  - Sample will not be independent of one another
- **Convenience sample**… is convenient.

Developing Prompts/Questions

- Questions should be specific, clear, straightforward
- You can ask fewer questions than you think
- Questions can be broad or narrow
- Pilot-test questions if possible
  - Get comfortable with flow
  - Make sure you're asking what you think you're asking
  - Practice being an interviewer, get coaching

Study Design

- "**structured**:"
  - Interview or focus group follows a clear "script"
- "**semi-structured**:"
  - Follow-up clarifying questions are used to gather more information
  - Questions can be refined during the interview/focus group process

Example 1: Educational Debt Study

- *Research question*: How do students consider their educational debt as they evaluate career choices, especially primary care?

- *Participants*: Second year medical students at a single medical school with above-average debt

- *Sampling/Recruitment*: Health Policy course with required essays

- *Data*: 132 essay responses about debt and career development

Debt Study Essay Question

Some people believe that high educational debt, and the different levels of income that U.S. physicians in different specialties can expect to earn, keeps many medical students from choosing fields with lower pay, such as primary care.

Does your educational debt, and the different levels of income you might expect to earn in different specialties, influence the way you think about your specialty choice and career? Why or why not?

Example 2: Rural Women Physicians Study

- *Research question*: How do women physicians in rural practice balance their family and work lives?

- *Participants*: Women practicing Family Medicine in rural zip codes

- *Sampling/Recruitment*: E-mail recruitment using rural physician listservs and snowball sampling; compensated with Amazon gift cards

- *Data*: 25 interviews (transcriptions and audio recordings)

Rural Women Physician Interview Questions

- How are you managing with your work-life balance?

- How do you bring your work life and personal life work in balance?

- How do you prioritize your responsibilities?

- How has your career affected your family?

- What part does your partner play in your work-life balance?

- What solutions have you found?

How are you managing with work-life balance?

"Tell me more."

"What was that like?"

"That sounds like a challenge."

"And what did the office manager say?"

How do you prioritize your responsibilities?

"What happened then?"

"How did you decide?"

"How did you feel?"

"Interesting."

How has your career affected your family?

"Say more about that."

"So what I hear you saying is…"

"When was that?"

"How old was your son then?"

Ethical Considerations

- Difficult (impossible?) to get truly anonymous data with in-depth interviews, focus groups, or even essays

- Informed consent is essential.

- Always get IRB approval.

- Do not promise anonymity; commit seriously to confidentiality.

- Generally best not to collect data directly from participants when you have another relationship.

- Consider removing identifying information before group analysis. Use caution when listening to audio.

- If collecting sensitive/upsetting information, have a support plan in place.

Costs

- Incentives
- Software
- Personnel time, including administrative support time
- Transcription
- Travel

Collecting and Managing Data

- Audio recording benefits/drawbacks (consent)

- Memo-writing or note-taking

- Transcription (self or service)

- Document your own reflections on the data

Collecting and Managing Data

NVivo http://www.qsrinternational.com

- *Well-known package*

- *Evolved from NU*DIST, in use for decades*

- *Has training seminars all over the world*

- *User-friendly, intuitive*
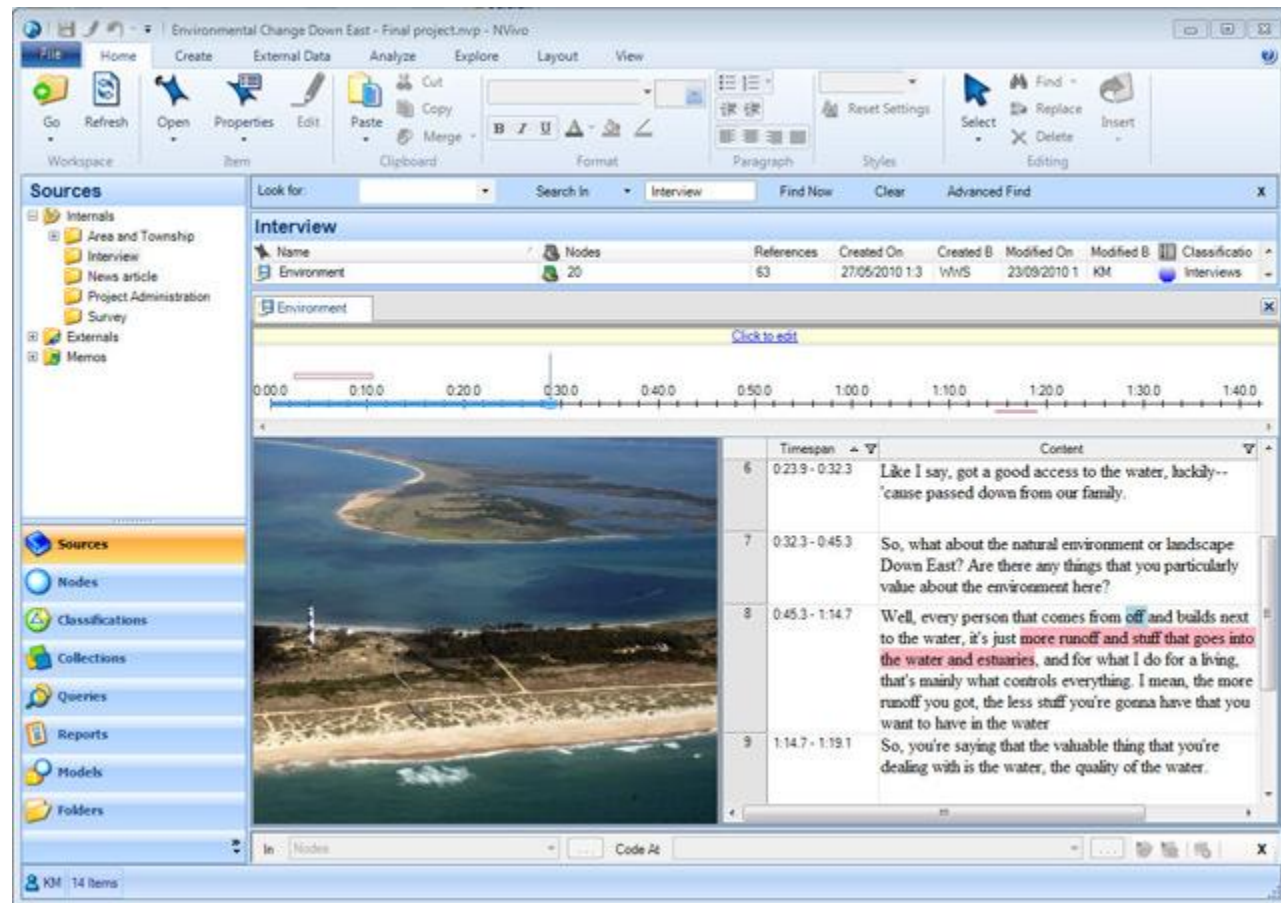
Collecting and Managing Data

Atlas Ti http://atlasti.com/

- *Also widely used.*

- *More advanced skills, less user-friendly*

- *Training and free trials available*

Dedoose http://www.dedoose.com/

- *Has a truly free version, with limited ability to collaborate*

- *Entirely web-based; no local computer management needed*

Approach to Analysis

- **Content analysis:** text is coded by identifying key words (or using pre-identified key words), allowing documents to be "converted" into quantitative data

- **Template analysis** – a pre-existing template is used to code data

- **Immersion and Crystallization:** cycles of concentrated review of data, combined with reflection, until themes emerge. (Typically followed by detailed coding.)

- Many, many others

Immersion and Crystallization

Analysis is a Team Sport
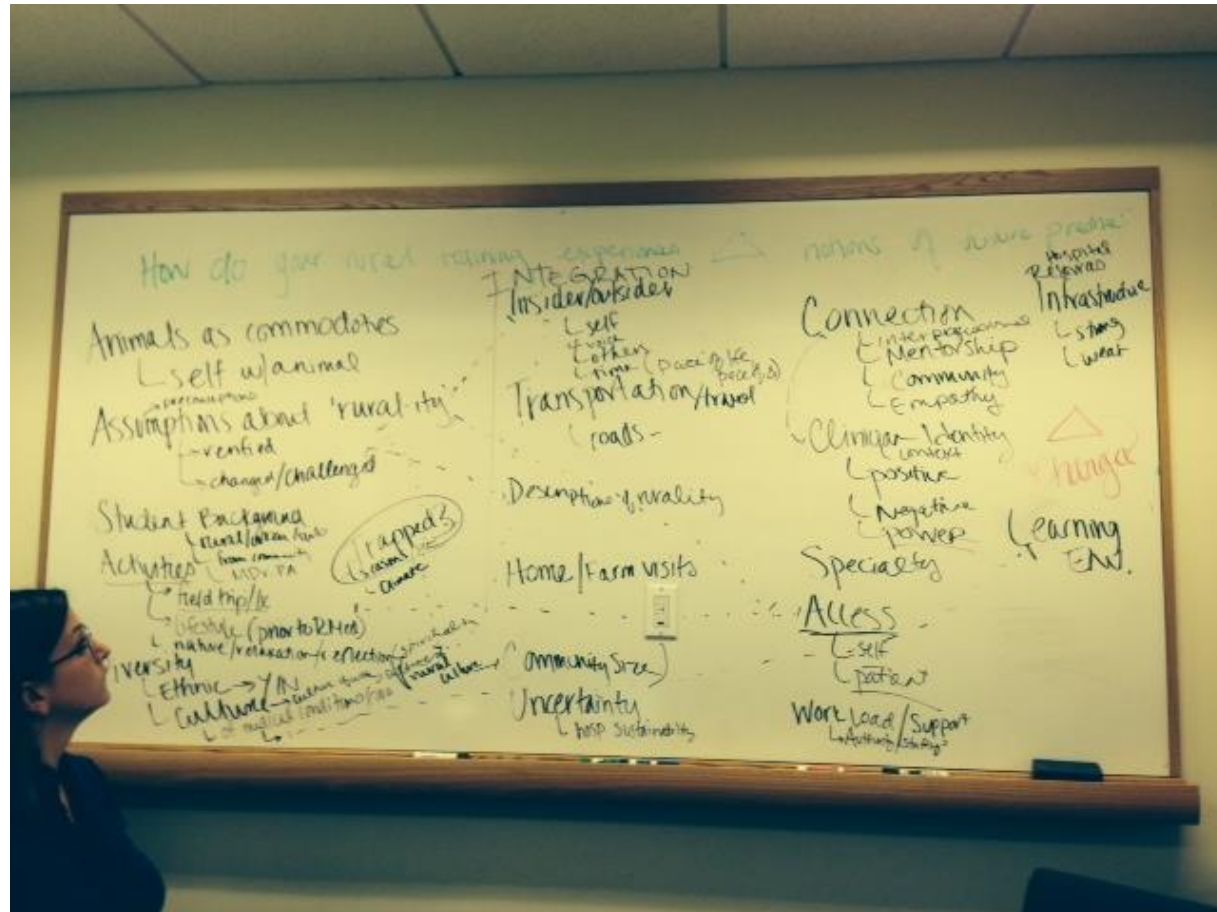
- Diverse team is best (worldviews, disciplines, experiences)

Exercise 2: Text Immersion

- Move into small groups of 3-4 people

- Look at the data you've been given individually

- Then discuss the findings with your group

- Write down three to five major "themes"
  - Each "theme" should have supporting evidence – key words, quotes, examples
  - There can be sub-themes, caveats, complexity, minority opinions
  - Look for conflicting viewpoints/contradictions

- **Remember the research question!**

- Plan to present to the larger group

Disclosures about this Data

- This is real data; please do not share it outside this room

- I have scrubbed it to make it anonymous

- Some details have been changed

- These data do not represent the complete range of data that we found - they are not a complete presentation of the studies represented

Exercise Debrief

- What did you enjoy about doing the "rapid" qualitative analysis?

- What was difficult?

- What was unexpected?

- Does this spark ideas for qualitative research you could do?

Coding Manual - example
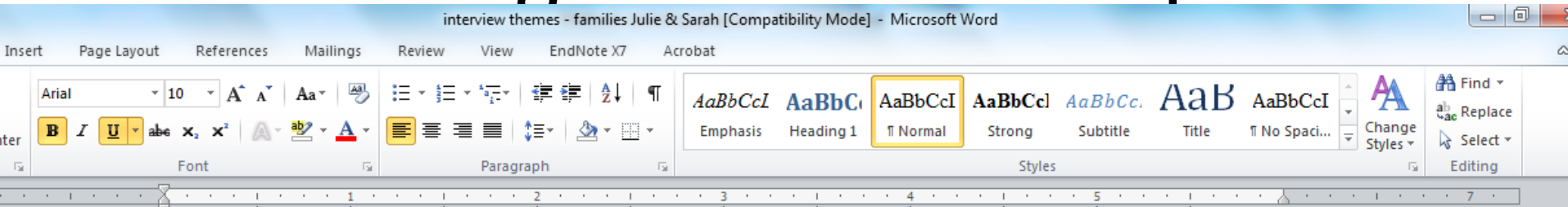
Rural Women FP interview themes

Home, Family, and Work-Life Balance

Relationship status
- single
- being single/hard to stay in a rural community

work/life balance
-work hours description
-part time
-call
-time away is important (from child care, household work, and from professional work; self-care time)
-time to enjoy parenting is important
-no time for self care (exercise, hobbies)
-feel guilty about time away from patients (i.e. vacation)
-happy with work amount
- work is flexible
- work is not flexible
- precarious
- schedule is important to quality of life
- difficult/unhappy
may not be sustainable
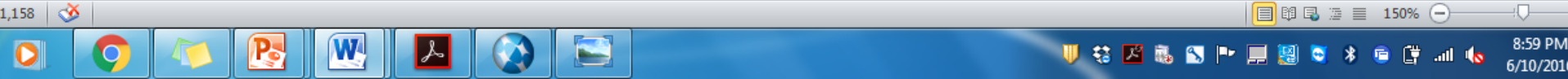
Detailed Coding
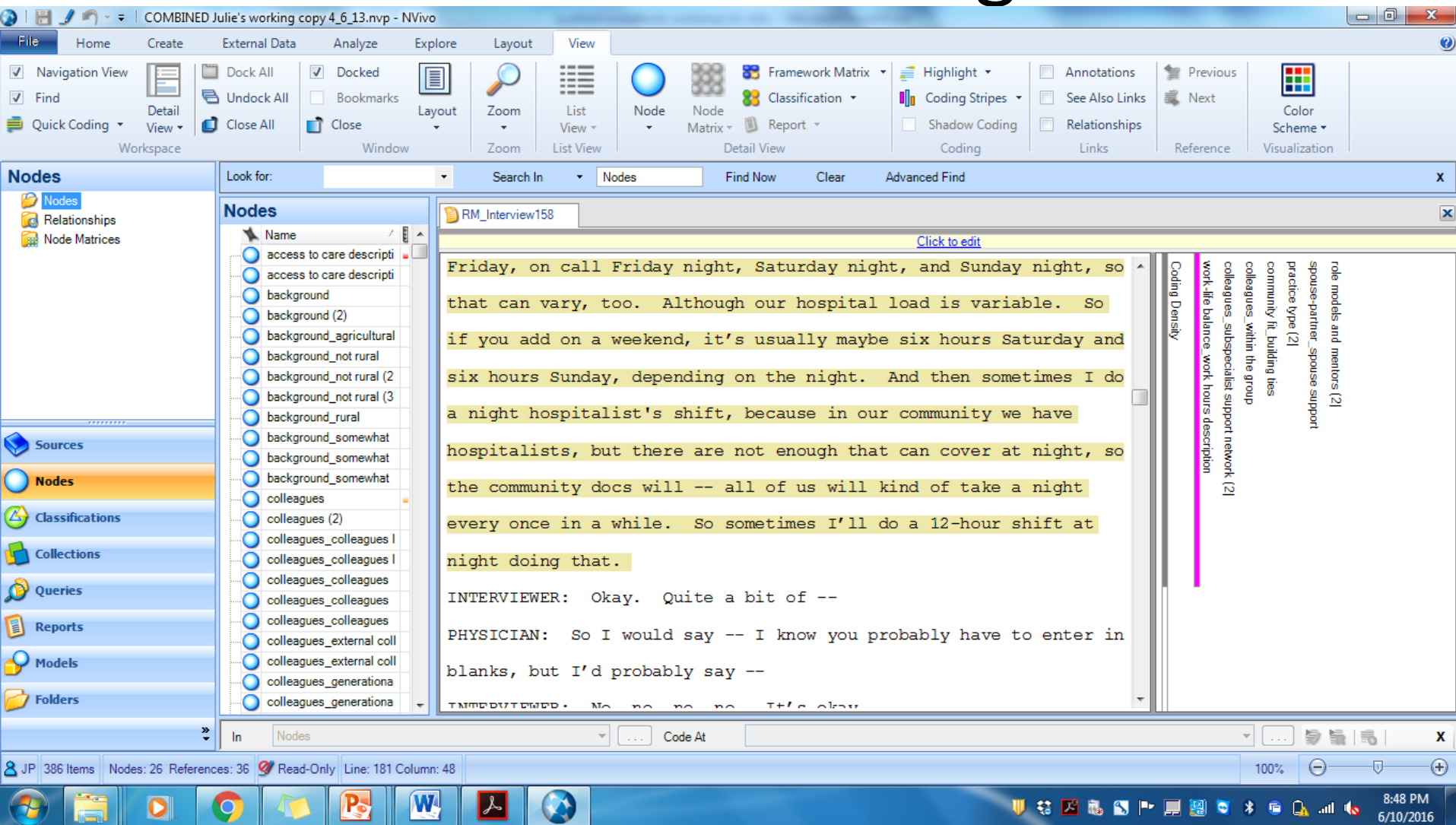
Exercise 3: Coding

- As a group, return to **one** of the major themes you identified
- From the beginning, go through each interview one by one
  - Find any text that supports the theme and mark it within the dataset
  - Note also any text that contradicts or refutes the theme
- Discuss as a group – how closely do you agree? Is the theme supported by the text?

Questions?

Increasing Validity of Data

- **Saturation:** when fresh data no longer yields new insights or information
- **Reflexivity:** the researcher reflects about how their background, experiences, and beliefs shape their interpretion of the data
- **Member checking:** Take the findings back to the participants to check for agreement
- **Triangulation:** Themes (findings) and coding should be corroborated by multiple participants
- **Code-recode strategy:** Multiple members of research team code and try to reach consensus
- **Audit trail:** documentation of how data collection and analysis was completed
- Multidisciplinary team
- Experienced qualitative researcher

Presenting and Writing Qualitative Research

- "One sign of inexperienced writers is that the prefer to discuss their proposed study rather than write about it."

- John W. Creswell
Research Design, 2014

Don't stay in the water too long.

Methods Section

- Describe your process clearly and completely
- State your philosophic approach and specific methodology – there is no "standard qualitative methods"
- Some quantitative reporting may be appropriate, particularly to describe sample
- Consider the style of your target journal
- Consider the knowledge base of your audience

Method

Setting

This qualitative study was conducted at Michigan State University College of Human Medicine (MSU-CHM), a large, community-based public medical school in the midwestern United States.[25] First- and 2nd-year coursework is completed in either Grand Rapids or East Lansing, Michigan, with the final 2 years in one of seven regionally dispersed communities. MSU-CHM graduates are more likely to practice primary care than graduates of most other medical schools[26] but also have high debt. Indebted MSU-CHM students in the class of 2014 graduated with an average debt of $214,598, compared to a national average of $167,466 for all indebted medical students.[27]

MSU-CHM students complete required longitudinal financial aid coursework, including curriculum about debt management and fiscal responsibility. Students in this study had participated in large-group financial aid sessions focused on credit scores, budgeting, and loan repayment options and had completed individualized debt management sessions provided by university financial aid officers. As part of a required 2nd-year Health Policy course, MSU-CHM students learn about the U.S. health care system, health care costs, the physician workforce, and the U.S. primary care physician shortage. Students participating in this study were currently enrolled

Methods Section
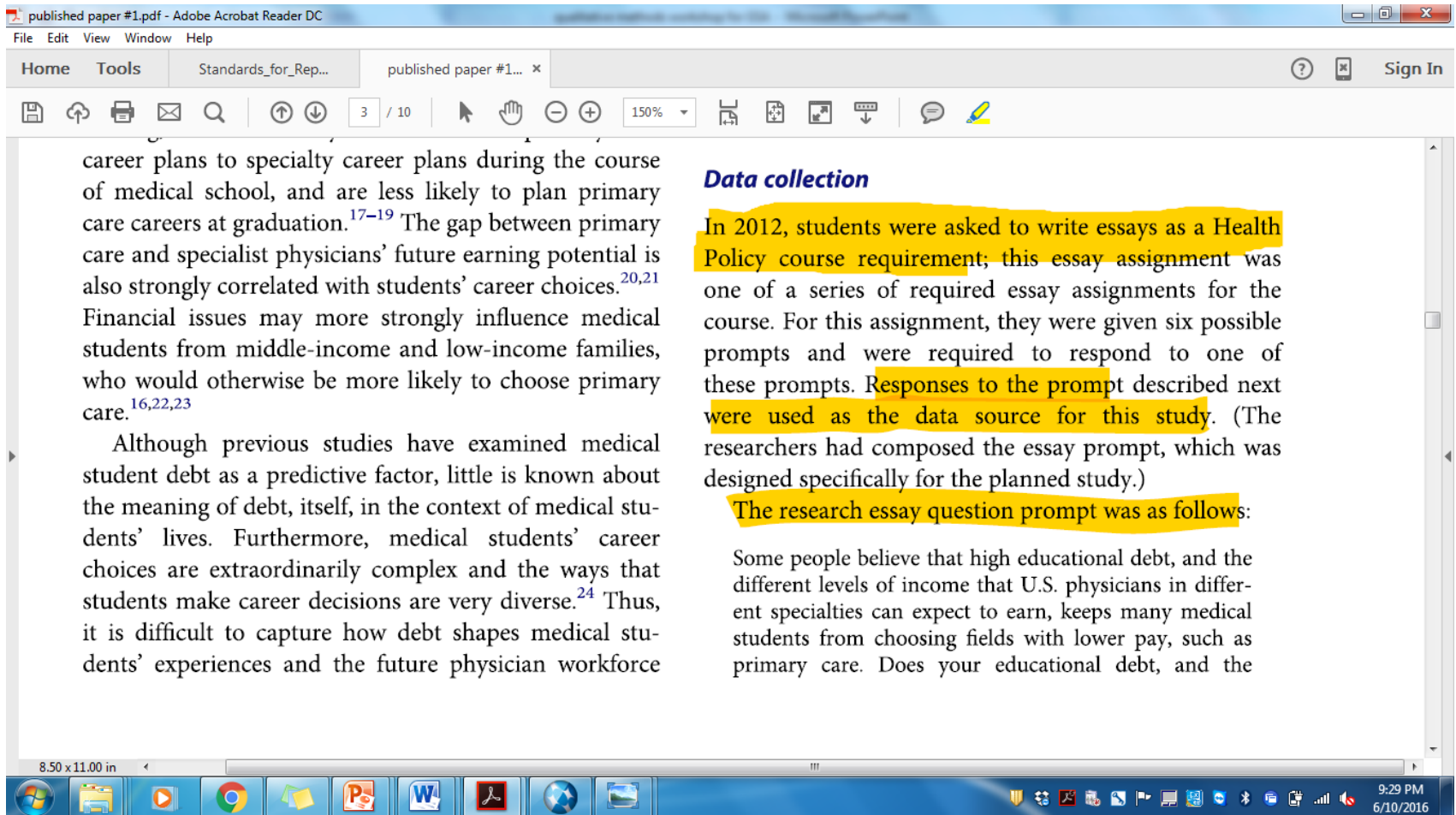
Data analysis and validity

The essays were analyzed by all four members of the research team—a licensed professional counselor experienced in medical student career education, a family physician researcher, a community engagement scholar, and a medical student. In accordance with principles of qualitative inquiry, we implemented multiple strategies to ensure quality and rigor. The researchers used Atlas.ti software to assist in the data analysis and create an audit trail. Team members initially analyzed the essays using immersion and crystallization, which Borkan described as "cycles whereby the analyst immerses him- or herself into and experiences the text, emerging after concerned reflection with intuitive crystallizations, until reportable interpretations are reached."[28](p179–180) During this

Methods Section

expanded and explored emergent themes in depth by searching the text, in detail, for commonalities and differences in patterning of statements. During some portions of the analysis, researchers read the essays with a focus on a particular domain. The research team also developed concept maps to explore the ways that ideas were connected and expanded. Through this process of reading, rereading, and group discussion, a detailed coding manual was developed. We also looked for heterogeneity within the themes, searching for disconfirming evidence and including minority perspectives.[29]

Essays were then coded independently by at least two team members and codes were discussed by the group in order to reach consensus (code–recode strategy).[30] The results of the detailed coding were then reexamined to describe new discourse. As new themes emerged, the cycle of coding was repeated, such that at the end of the process all themes had been coded in every essay.

Methods Section

principal investigator removed in-text information from the essays that could potentially be identifying before the medical student was given access to them.

The researchers engaged in a continuous process of reflexivity.[31] For example, many of the essays generated intrinsic responses from the researchers; they documented these responses by taking notes in the margins of the essays and discussed their responses with the group. Because the researchers represented several disciplines and a student, they challenged one another to ensure that their interpretations were supported directly by the text and not generated by their own core beliefs or subjective experiences.

The researchers had sufficient data to achieve saturation. After we completed the analysis, we presented the findings to a group of 30 first- and second-year medical students, who affirmed that the themes identified were accurate and complete. Because these students were in a different class cohort, this is a modified form of member checking.[30]

Debt reinforces a sense of entitlement

Some students expressed feelings of entitlement to a high income because of debt, but also because of other aspects of the medical education process.

> Six-figure salaries should offset six-figure debt and it should be expected that the best and brightest pursue the most lucrative careers. [Essay 57]

> Lifestyle concerns are important. The expense of medical education makes me feel that I not only need a certain income to repay my debt but also have earned a certain lifestyle. [Essay 102]

Even students without debt described feeling entitled. Because of their prolonged educational experience, they had delayed retirement savings, which exacerbated financial insecurity. They also believed their hard work entitled them to a less work-intensive lifestyle and a high income.

Table 2. Emergent themes and their definitions.

Emergent Theme	Definition of Theme	No. of Essays
Meaning of Debt		
Debt Symbolizes Lack of Social Investment	Educational debt signifies society's lack of understanding of students' medical education experiences and lack of investment in the medical education process.	16 (12%)
Debt Reinforces a Sense of Entitlement	Debt reinforces students' beliefs that they deserve a high income, especially given the hard work and sacrifices required by the curriculum.	25 (19%)
Debt is a Collective Experience	Debt influences all students negatively; even students with little educational debt of their own are concerned about their peers and colleagues.	46 (35%)

Table 3. Key Strategies Supporting Rural Practice and Representative Quotes

Strategy	Representative Quotes
Variations in work hours and flexibility	"Being part time and resisting the temptation to go more full time just because you'd like more money has absolutely been key for me... If I didn't have those days in between to recharge... or do the laundry, for heaven's sake, I don't know how I would have raised kids..." (Physician 16)
	"I have a lot of control over my schedule, and so even if I need to be at something for the kids, I can say, 'Okay, I'm not going to be here Friday, and instead I can work Tuesday...' The flexibility is a big deal." (Physician 4)
	"When you're not totally stressed the house is clean and dinner is made and your charts are done and maybe you exercise. And when that kind of shifts as the pendulum swings... we need cereal and the house is dirty and my charts pile up, and then I just get through it and then it swings back and I have a little space... People say you have to have separation or you have to keep a bright line, but actually I find that having a flexible line between work and home seems to help with balance." (Physician 1)
Supportive relationships	"He stayed home with the kids until about 3 or 4 years ago, and so he was what I always called the responsible parent. He could be depended on to get them where they needed to get to, and then I would get there when I could." (Physician 17)
	"He definitely accommodated my training and where we needed to be. The moves were all dependent on where I was going to go." (Physician 13)
	"My husband and I met in medical school, and we knew that we both wanted to be rural family docs; when we met, that's what we met saying." (Physician 4)
	"He's doing the same job I am, so we pretty much share things at home. I mean, we both cut the grass and we both clean, cook, and we took care of the kids... It's really worked out well for us." (Physician 2)
	"If I needed [my mother] to come over at 2 in the morning because I had a patient in labor, she came over... So she knows my call schedule and knows what's going on." (Physician 25)
	"My babysitter is very understanding, and what she's told me is, 'You know, if you have an emergency, just call me and let me know.'" (Physician 21)
Clear boundaries around work	"The doctor that founded our practice missed all of his kids' stuff growing up because he was always on call, and people would always drop by, and he would drop everything. And so there was a lot of reeducating my patients... there was a little bit of resistance maybe from some people, but the vast majority of people were very understanding." (Physician 17)

Discussion Section

- Implications of findings

- Significance of findings in larger context of previous research

- Limitations

- Areas for further research

Find a good coach and get in the water!

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