Lecture 8.2

Qualitative Analysis

UNIVERSITY OF AUCKLAND

COMPSCI 705 / SOFTENG 702

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Let's get some data to analyse

- Use the two interview questions that you generated on travel
- Get in pairs for a 4-minute semi-structured interview
- Interviewer takes at least 8 notes while listening

- Switch roles. Share your notes.

Learning Objectives

- Understand basic concepts in qualitative analysis
- Be able to analyse qualitative data

Outline

- Qualitative data
- Approaches to qualitative analysis
  - Affinity diagram
  - Grounded theory method
  - Thematic analysis

Qualitative data

- Verbal data from open ended questions
- Interview data
  - observation data
  - document data
  - audiovisual data
- Text and images

Approaches to qualitative analysis

- Forms of "coding"
- Approaches to qualitative analysis
  - Affinity diagram
  - Grounded theory method
  - Thematic analysis
- Standards for rigour
  - referenced method
  - clear definition of saturation
  - emerging: positionality

Saturation

- Arrive at a point in research where no new themes are learned
  - stop data collection / participant recruitment
  - stop data analysis
- Defining saturation has been debated

Forms of “coding” qualitative data

– Open: identify categories
– Axial: “flesh out” and link to subcategories
– Selective: form theoretical scheme

Affinity Diagrams

Grounded Theory

- Derives theory from systematic analysis of data
- Based on categorization approach
- Curiosity, Creativity, Surprise
- Based on categorization approach

Case Study in Human Robot Interaction using Grounded Theory

Mutlu, B., & Forlizzi, J. (2008, March). Robots in organizations: the role of workflow, social, and environmental factors in human-robot interaction. In *2008 3rd ACM/IEEE International Conference on Human-Robot Interaction (HRI)* (pp. 287-294). IEEE.

THE PROCESS

Reading (and re-reading) a textual database (e.g., a corpus of field notes

"Discovering" or labeling variables (called categories, concepts and properties)

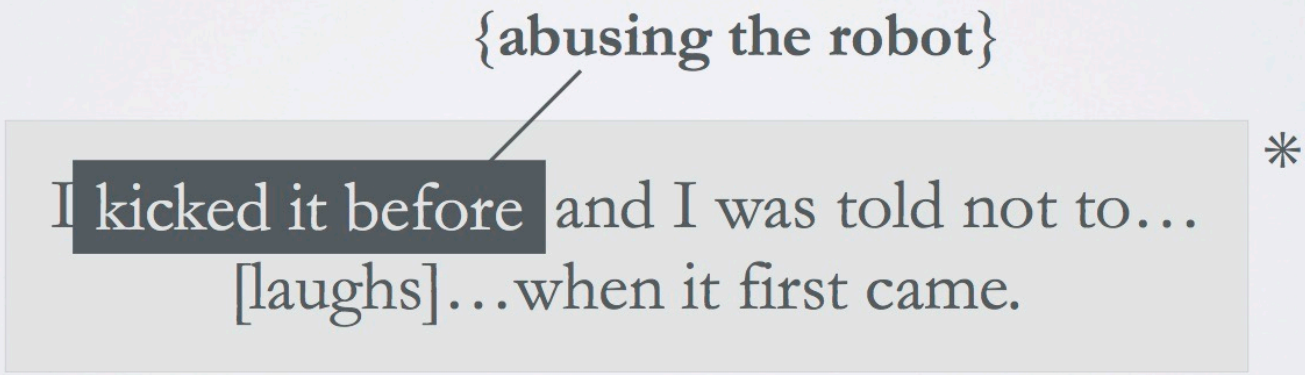
Identifying interrelationships

OPEN CODING

Coding for concepts that are significant in the data as abstract representations of events, objects, relationships, interactions, etc.

Reliability analysis ensures objectivity of coding

Cohen's Kappa, >.70 acceptable



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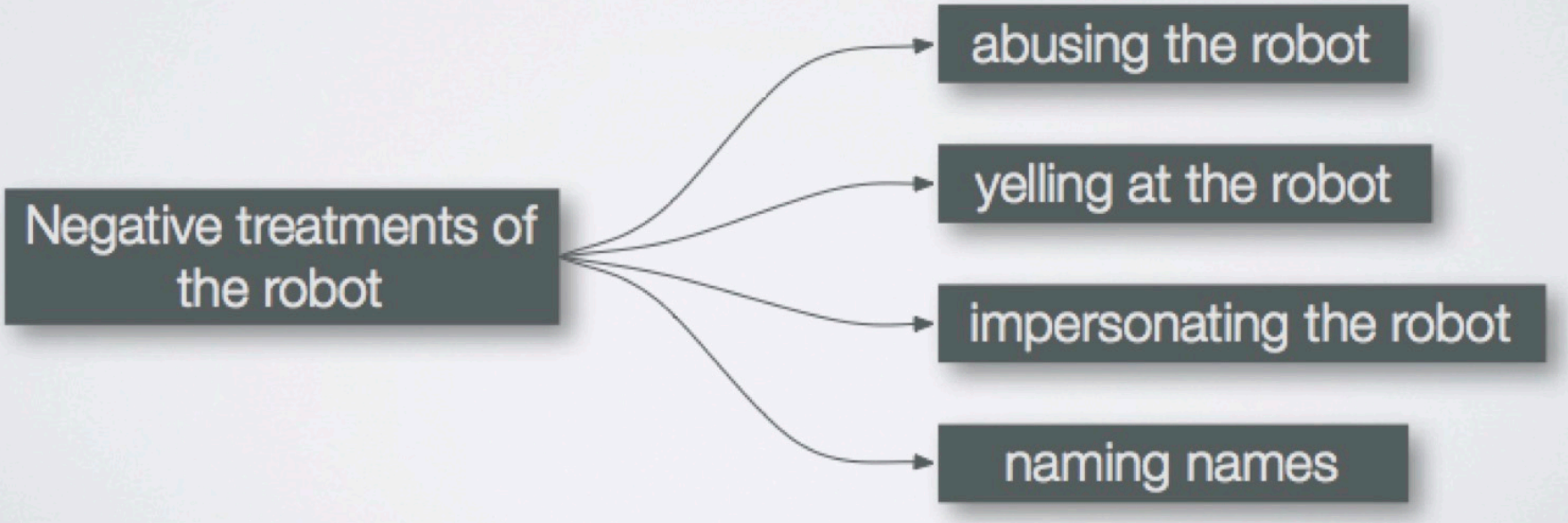
* Mutlu, B. & Forlizzi, J. (2008). *Robots in Organizations: Workflow, Social, and Environmental Factors in Human-Robot Interaction*. In Proceedings of HRI'08 — Winner of the best paper award.

AXIAL CODING

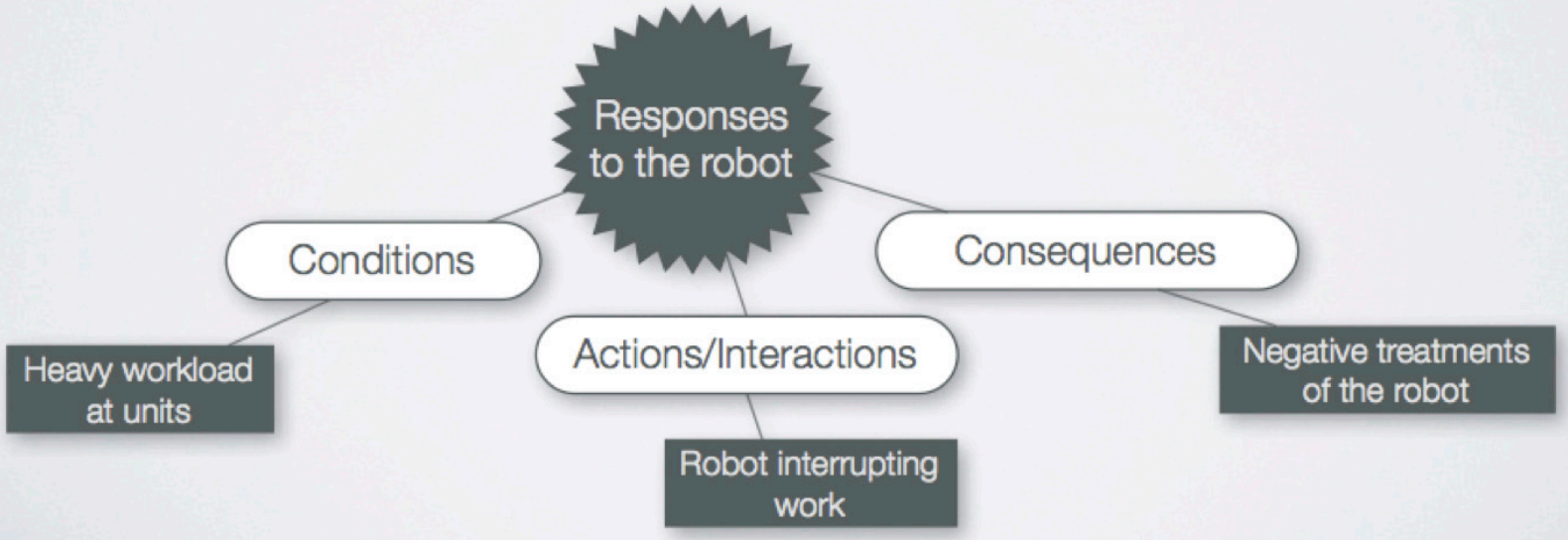
Concepts are categorized into explanations of arising phenomena (e.g., repeated events, actions, and interactions)



SELECTIVE CODING

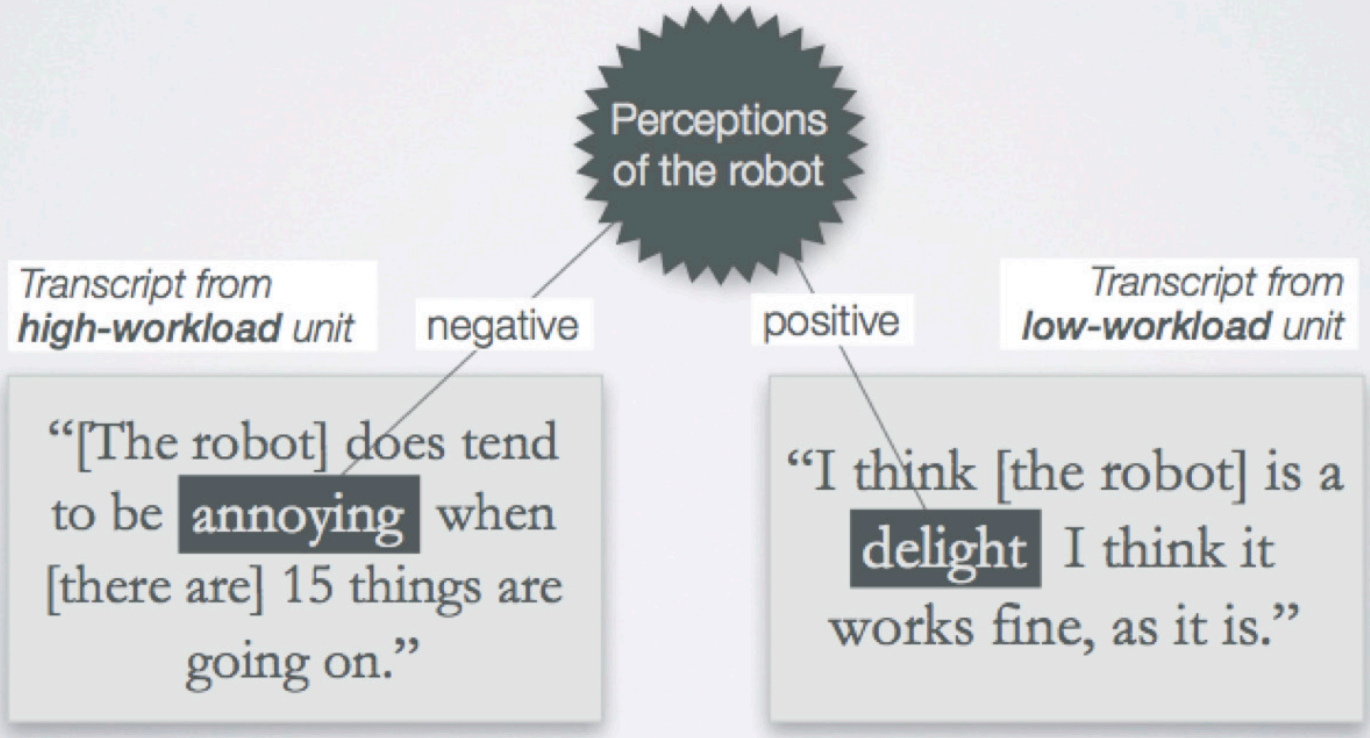
Integrate categories into a central paradigm—a "big picture" of the findings through building relationship across categories and contextualizing phenomena in data

Diagramming or tables could be used to build relational models



COMPARATIVE ANALYSIS

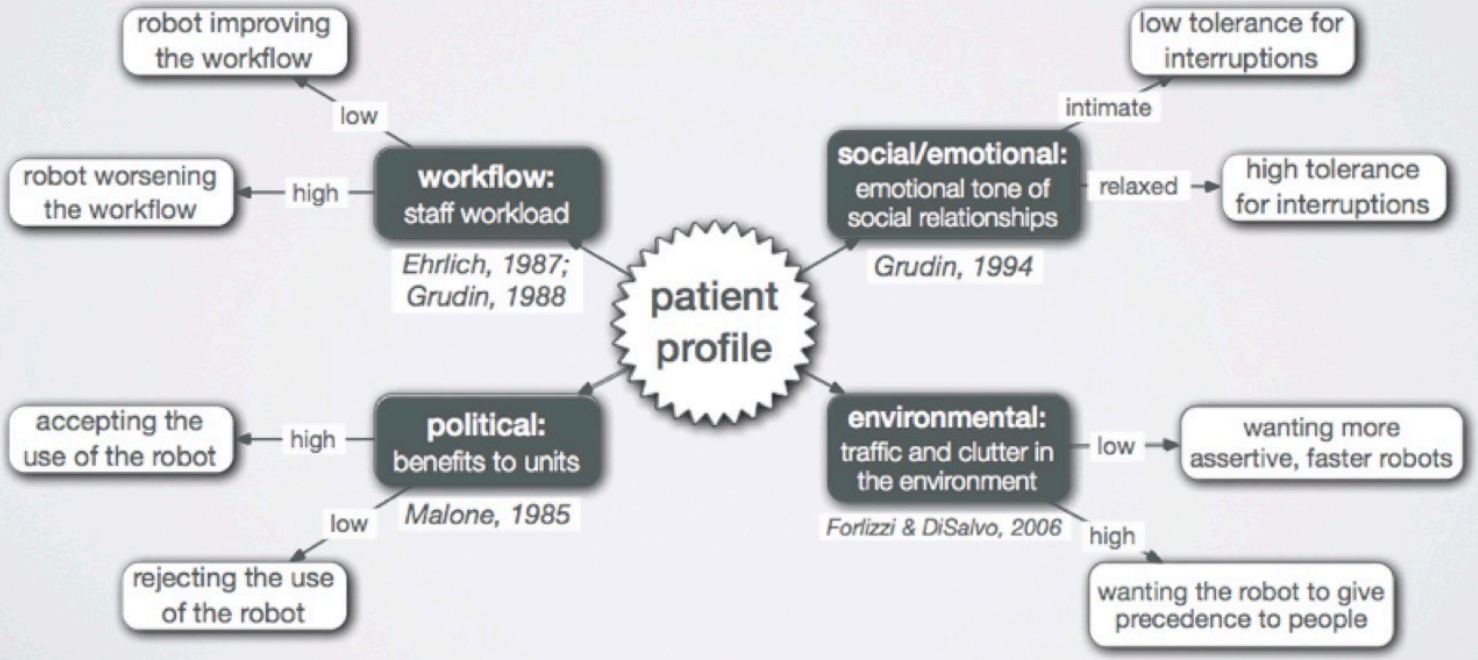
Compare the central phenomenon across several dimensions to understand how it is affected by social, physical, or organizational structures



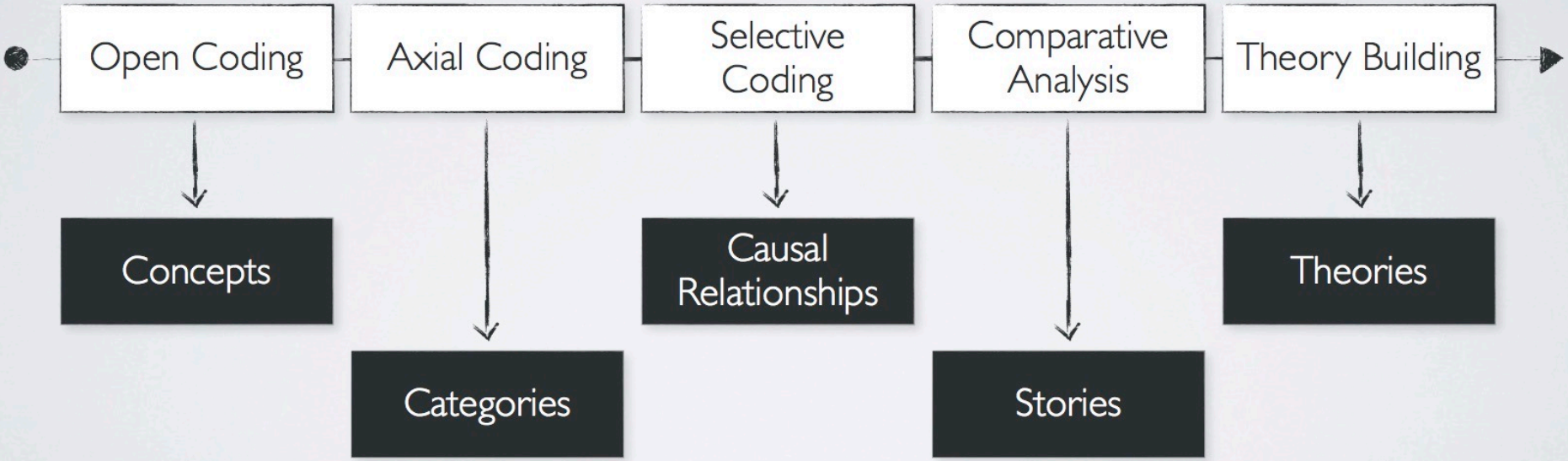
THEORY BUILDING

Build a final theoretical model based on the results of the comparative analysis

"Embed" existing theory in this model



RECAP OF PROCESS



Thematic Analysis

Phase	Examples of procedure for each step
1. Familiarising oneself with the data	Transcribing data; reading and re-reading; noting down initial codes
2. Generating initial codes	Coding interesting features of the data in a systematic fashion across the data-set, collating data relevant to each code
3. Searching for the themes	Collating codes into potential themes, gathering all data relevant to each potential theme
4. Involved reviewing the themes	Checking if the themes work in relation to the coded extracts and the entire data-set; generate a thematic 'map'
5. Defining and naming themes	Ongoing analysis to refine the specifics of each theme; generation of clear names for each theme
6. Producing the report	Final opportunity for analysis selecting appropriate extracts; discussion of the analysis; relate back to research question or literature; produce report

Your turn…

Share your notes with a new peer.

Code them with thematic analysis.

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Practice Problem

Use these words to fill in the sentences below.

initially grouping	descriptive labels/themes
coding	theory

Affinity diagrams involves _____and gives _____.
Grounded theory method involves _____ and gives _____.
Thematic analysis involves _____and gives _____.