

Codes, concepts and
categories, oh my!
**Building your skills in
qualitative data analysis**

ASSOCIATION OF PEDIATRIC PROGRAM DIRECTORS
ANAHEIM 2017



Welcome!

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The authors have no financial relationships or conflicts of interest to disclose

Objectives

1. Define and differentiate 3 common qualitative analytical approaches
2. Recognize which analytical approach is appropriate for a given research question and goal
3. Analyze qualitative data through the development of your own coding scheme and themes

Agenda

- | | |
|---|--------------|
| 1. Brief introduction to qualitative research | 3:15-3:25 pm |
| 2. Discuss the concept and process of coding, category and theme creation | 3:25-3:35 |
| 3. Activity 1 : Code a transcript | 3:35-4:00 |
| 4. Activity 2 : Create categories and themes | 4:00-4:20 |
| 5. Discuss how to select an analytical approach | 4:20-4:30 |
| 6. Q&A, summary and workshop evaluation | 4:30-4:45 |
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What is Qualitative Research?

AND WHEN SHOULD YOU USE IT



Qualitative Research

- Designed to understand the perspectives and experiences of individuals or groups
- Subjective
 - Emphasizes meaning, interpretation
- Inductive
 - Goal is to generate hypotheses, develop theories
- Reflective
 - Acknowledges researcher's role and biases

When should you use qualitative methods?

- **Explore** a problem or issue in depth
- **Understand** variables that are difficult to measure quantitatively
 - Inform survey design
- **Empower** individuals to share their stories, give a voice
- **Explain** how ideas link together in existing theories or models
- **Generate** new theories

Qualitative Research Requires Rigor

Quantitative Criteria	Qualitative Counterpart	Definition
Internal Validity	<i>Credibility</i>	Truth value
External Validity	<i>Transferability</i>	Applicability
Reliability	<i>Dependability</i>	Consistency
Objectivity	<i>Confirmability</i>	Neutrality

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Analyzing Data

CODING, CATEGORY AND THEME CREATION



Analysis Considerations

- Who will be part of your analysis team?
- How will you divide the work?
 - Everyone codes all transcripts
 - Everyone codes first X transcripts, agrees on coding schema and then divides up the remaining transcripts
- What will you use to help organize your analysis?
 - Qualitative analysis software (Atlas.ti, Dedoose, Hyperresearch, Nvivo, etc.)
 - Excel
 - Notecards

Data Analysis Steps

- Read through data
 - Develop preliminary code list
 - Code – word/phrase (often taken verbatim from text) which represents a single idea
 - Single words, phrases, sentences, or paragraphs can be coded
 - Discuss code list with colleagues to finalize list and create codebook (iterative process)
 - Code remaining transcripts using codebook
 - Organize codes into larger categories
 - Organize categories into larger, overarching themes (thematic analysis)
- 

Code → Category → Theme

Theme

Theme

Theme – word/phrase to describe broader, overarching idea

Category

Category

Category

Category

Category – word/phrase to describe a group of codes

Code

Code

Code

Code

Code

Code

Code

Code – word/phrase which represents a single idea

Topic: Self-Directed Life-Long Learning in Medicine

Quotes

There seems to not be enough time in the day. Sometimes I find I'm just too tired to focus on reading.

More pressing issues of day-to-day work and patient care

Time constraints with work

Time

When I'm home I want to do other things

Being tired

Having too many other pressing matters to attend to

Being constantly tired

Time

Balancing work and family

Li ST, et al. Successful Self-Directed Life-Long Learning in Medicine: A Conceptual Model Derived from Qualitative Analysis of a National Survey of Pediatric Residents. *Academic Medicine*. 2010; 85(7):1229-1236.

Self-Directed Life-Long Learning in Medicine

Quotes	Code List
There seems to not be enough time in the day. Sometimes I find I'm just too tired to focus on reading.	Time
More pressing issues of day-to-day work and patient care	
Time constraints with work	
Time	
When I'm home I want to do other things	
Being tired	
Having too many other pressing matters to attend to	
Being constantly tired	
Time	
Balancing work and family	

Self-Directed Life-Long Learning in Medicine

Quotes	Code List
There seems to not be enough time in the day. Sometimes I find I'm just too tired to focus on reading.	Time
More pressing issues of day-to-day work and patient care	Tired
Time constraints with work	
Time	
When I'm home I want to do other things	
Being tired	
Having too many other pressing matters to attend to	
Being constantly tired	
Time	
Balancing work and family	

Self-Directed Life-Long Learning in Medicine

Quotes	Code List
There seems to not be enough time in the day. Sometimes I find I'm just too tired to focus on reading.	Time
More pressing issues of day-to-day work and patient care	Tired
Time constraints with work	Patient care/learner balance
Time	
When I'm home I want to do other things	
Being tired	
Having too many other pressing matters to attend to	
Being constantly tired	
Time	
Balancing work and family	

Self-Directed Life-Long Learning in Medicine

Quotes	Code List
There seems to not be enough time in the day. Sometimes I find I'm just too tired to focus on reading.	Time
More pressing issues of day-to-day work and patient care	Tired
Time constraints with work	Patient care/learner balance
Time	Balancing life and work
When I'm home I want to do other things	
Being tired	
Having too many other pressing matters to attend to	
Being constantly tired	
Time	
Balancing work and family	

From Codes to Categories

Codes	Categories
<ul style="list-style-type: none">• Time pressures• Tired	??
<ul style="list-style-type: none">• Balancing pt. care/learning• Balancing life/work	??

From Codes to Categories

Codes	Categories
<ul style="list-style-type: none">• Time pressures• Tired	Environmental Strain
<ul style="list-style-type: none">• Balancing pt. care/learning• Balancing life/work	Competing Demands

Code → Category → Theme

Theme

???

Theme – word/phrase to describe broader, overarching idea

Category

Category

Environmental
Strain

Competing
Demands

Category – word/phrase to describe a group of codes

Code

Code

Code

Time

Tired

Pt-care

Life-
work

Code – word/phrase which represents a single idea

Code → Category → Theme

Theme

Barriers to Achieving Learning Goals

Theme – word/phrase to describe broader, overarching idea

Category

Category

**Environmental
Strain**

**Competing
Demands**

Category – word/phrase to describe a group of codes

Code

Code

Code

Time

Tired

Pt-care

**Life-
work**

Code – word/phrase which represents a single idea



Theme: Barriers to Achieving Learning Goals

Quotes	Code	Category
<ul style="list-style-type: none">• There seems to not be enough time in the day• Time• Time constraints with work	Time pressures	Environmental Strain
<ul style="list-style-type: none">• Sometimes I find I'm just too tired to focus on reading• Being tired• Being constantly tired	Tired	
<ul style="list-style-type: none">• Having too many other pressing matters to attend to• More pressing issues of day-to-day work and patient care	Patient care-learner balance	Competing Demands
<ul style="list-style-type: none">• Balancing work and family• When I'm home I want to do other things	Life-work balance	

How many codes?

- Depends on research question
- Start with large number, then refine over time through additional analysis (iterative) and discussion (peer debriefing)
- End result = 25-30 codes -> 4-5 themes
- Single transcript = 10-15 codes

Small Group Activity 1:

Practice Coding

1. Independently read the transcript and develop a preliminary list of codes using the worksheet provided
2. In small groups of 3-4, discuss your code lists and develop 1 agreed-upon list
3. Reapply agreed upon code list to your own transcripts

25 min



Small Group Activity 2:

Create Categories and Themes

1. In your small groups of 3-4, review your coded transcripts and decide how to organize your codes into categories
2. From your categories, develop 2-4 themes that represent the data and how ideas are related
3. Be prepared to share your themes with your table

20 min



3 Approaches to Analysis

CONTENT, THEMATIC AND GROUNDED THEORY



Selecting An Approach

1. Research goal

2. Data that you have

	Research Goal	Type of Data
Content	<ul style="list-style-type: none"> • Describe data as is • Quantify codes or categories • Compare frequency of categories between groups (residents v. fellows) 	<ul style="list-style-type: none"> • Open-ended survey questions • Structured interviews or focus groups • Essays/narratives
Thematic	<ul style="list-style-type: none"> • Develop themes • Interpret "big picture" meaning of data 	<ul style="list-style-type: none"> • Structured or semi-structured interviews or focus groups • Essays/narratives
Grounded Theory	<ul style="list-style-type: none"> • Generate a theory or conceptual model about a process/social phenomenon 	<ul style="list-style-type: none"> • Semi-structured interviews or focus groups • Essays/narratives

Research Questions

Content Analysis

How do residents and fellows differ in the strategies they use to cultivate their own wellness during training?

Thematic Analysis

What factors facilitate resident wellness during residency training?

Grounded Theory

What factors facilitate resident wellness and what is the relationship between these?

Descriptive → Transformative

Content Analysis

Count frequency of categories

Develop categories

Code

Thematic Analysis

Combine categories into themes

Develop categories

Code

Grounded Theory

Generate theory/model for how themes relate

Combine categories into themes

Develop categories

Code

What does it mean to be “well” during residency?

CONTENT, THEMATIC AND GROUNDED THEORY ANALYSIS



Content Analysis

Codes	Categories
<ul style="list-style-type: none">• Finding moments• Not a goal	Wellness is a process
<ul style="list-style-type: none">• Effort• Practice• Daily occurrence	Requires deliberate practice
<ul style="list-style-type: none">• Mindfulness• Deep breathing• Attention/awareness• Gratitude	Involves connecting to oneself
<ul style="list-style-type: none">• Meaningful connection with patients, co-residents, significant others/friends	Involves connecting to others
<ul style="list-style-type: none">• Peace• Joy• Grounding	Outcomes of wellness

Thematic Analysis

Codes	Categories	Themes
<ul style="list-style-type: none"> • Finding moments • Not a goal 	Wellness is a process	<i>Effort Every Day</i>
<ul style="list-style-type: none"> • Effort • Practice • Daily occurrence 	Requires deliberate practice	
<ul style="list-style-type: none"> • Mindfulness • Deep breathing • Attention/awareness • Gratitude 	Involves connecting to oneself	<i>Connection</i>
<ul style="list-style-type: none"> • Meaningful connection with patients, co-residents, significant others/friends 	Involves connecting to others	
<ul style="list-style-type: none"> • Peace • Joy • Grounding 	Outcomes of wellness	<i>Being Well</i>

Thematic Analysis

Effort Every Day

- Wellness is a process, not an end point, and requires intentional, daily effort.

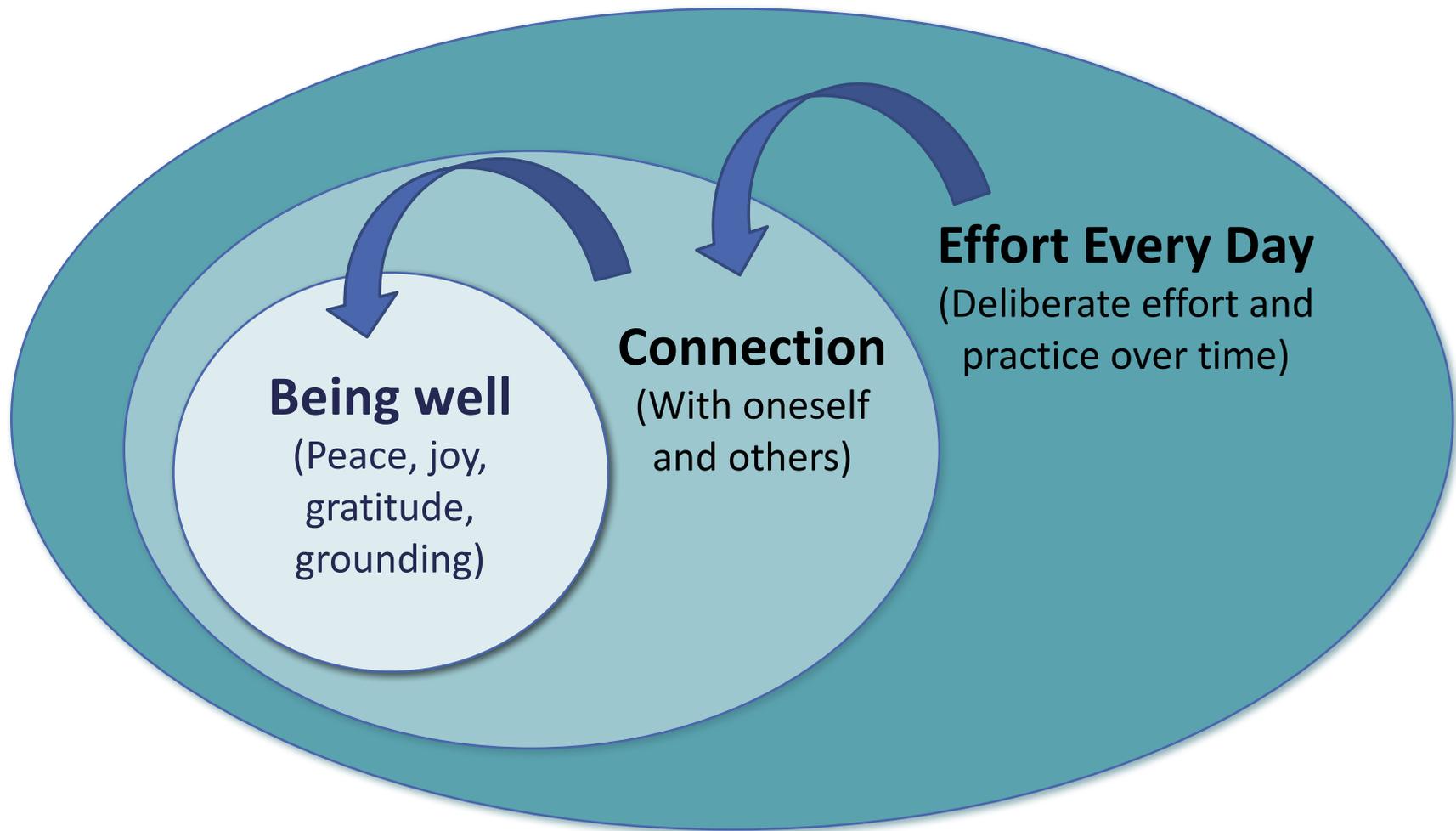
Connection

- Wellness involves seeking and cultivating a sense of connection: to oneself through mindfulness and attention; to patients and colleagues through meaningful relationships; and to one's work and workplace through engagement.

Being Well

- When practiced, wellness leads to a sense of grounding, joy and peace.
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Grounded Theory



Descriptive → Transformative

Content Analysis

Count frequency of categories

Develop categories

Code

Thematic Analysis

Combine categories into themes

Develop categories

Code

Grounded Theory

Generate theory/model for how themes relate

Combine categories into themes

Develop categories

Code

Conclusions

- Coding is the building block of all qualitative analysis
- Approach you select depends on:
 - Research goal
 - Type of data
- Analytical approach should be determined early:
 - Research question and study design
- Embrace the process, consult with qualitative researcher if publication is goal

Thank you!

What questions can we answer for you?

Resource packet

Please complete the brief (1-2 minute) evaluation so we can improve this workshop for future years!

