Coherence and Interdisciplinarity

Mariah A. Knowles · she/her · mariah.knowles.codes

There are many ways we might tell the "stories" of our research, so my central question is: Why ought my telling be the right one?

About Me

AI Ethics Education

- Uber's autonomous vehicle killed a jaywalker

- Pasco co., FL's police department collected data on K-12 students, without parent knowledge, for use in intelligence-led policing

- Google displayed search results for an old newspaper article about a man's debts in searches for him, although the debts had been irrelevant for many years

- These cases are made possible by a background data infrastructure: a network of technosocial systems collectively pertaining to the generation, processing, analysis, and storage of human data

- We are going through a period of social change around this data infrastructure

- Higher Education plays a role in that social change

- I study that role using mixed-methods

About Me

AI Ethics Education

CS, English, LIS

176.8 Credit Hours

Ethics, Writing, Methods, Programming, Web, Database

Ethics, Values, and Information group

Epistemic Analytics lab

Wisconsin Center for Ed Research

- Research has two steps

- Step one: Get the story fucking right

- Step two: Tell the moral of the story

- Stories are composed of a set of phenomena and the interweaving between them

- When we tell stories, we tell them with paragraph breaks: We make the decision to group certain events together because we believe their phenomena share some sense of similarity, and we spend time discussing that group of events's content and import before moving on

- We hang those paragraphs together into some larger global narrative structure, and that global structure usually has analytical import: We break the story into separable themes, a before vs. after, tell it as a story that moves over time, break it into alternating accounts of two contrasting groups, or so on

- No telling is neutral, and we deepen our analytic insight as we write, as we flesh out, investigate, and interrogate why our telling ought be the right one

- Usually we trust good qualitative stories just because they are well told!
- Qualitative research is often perspectival, and we humans are perfectly used to making sense from others experiences
- But selling us that your research is well done is harder in at least three cases

- Case one: You haven't looked at all the data (Twitter, Facebook, ...)
- Case two: You have a sensitive test (nested data like kids in classes in schools in districts, continuous variables like time, ...)
- Case three: You lack authority to claim saturation of your own experiences (trans narratives, abortion narratives, ...)

- Research has two steps

- Step one: Get the story fucking right

- Step two: Tell the moral of the story

- My role as a mixed-methods researcher: Tell a rich qualitative story whose turns are guided by quantitative features
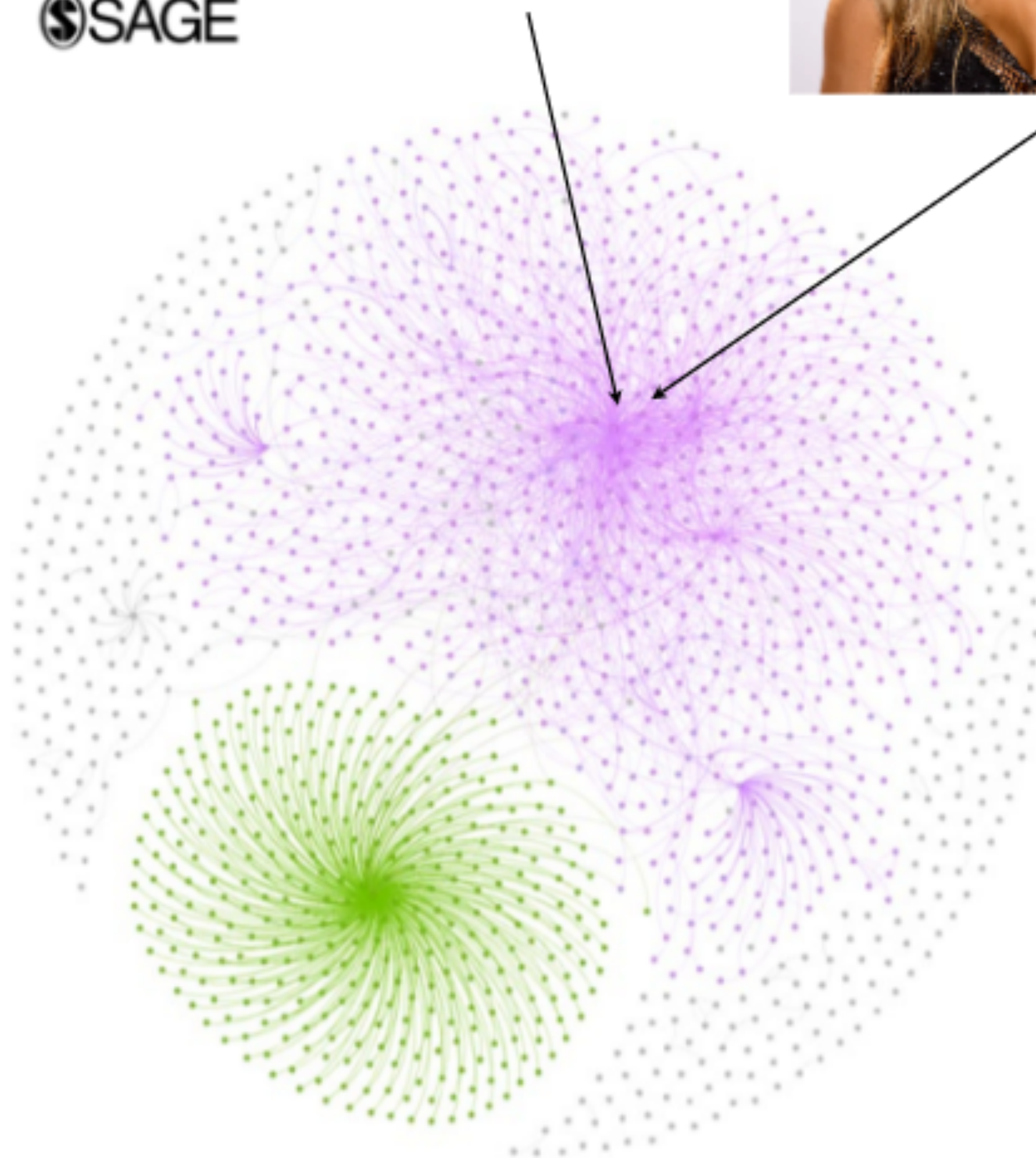
#GirlsLikeUs: Trans advocacy and community building online

Sarah J Jackson, Moya Bailey and Brooke Foucault Welles
Northeastern University, USA

#GirlsLikeUs: Trans advocacy and community building online

**Sarah J Jackson, Moya Bailey
and Brooke Foucault Welles**
Northeastern University, USA

This account doesn't exist

Try searching for another.

Account suspended

Twitter suspends accounts which violate the Twitter Rules. Learn more

#GirlsLikeUs: Trans advocacy and community building online

Sarah J Jackson, Moya Bailey

While Mock and Cox remain central to the network and thus help shape the scope of the conversation therein, neither they nor other members of the network engage in any policing behavior or attempt to control the discourse of others who use the hashtag. In other words, conservative users of the hashtag are ignored, but they are not reprimanded, while other users are actively rewarded by one another through attention and connection.

Celebrating trans lives
Building community
Creating change

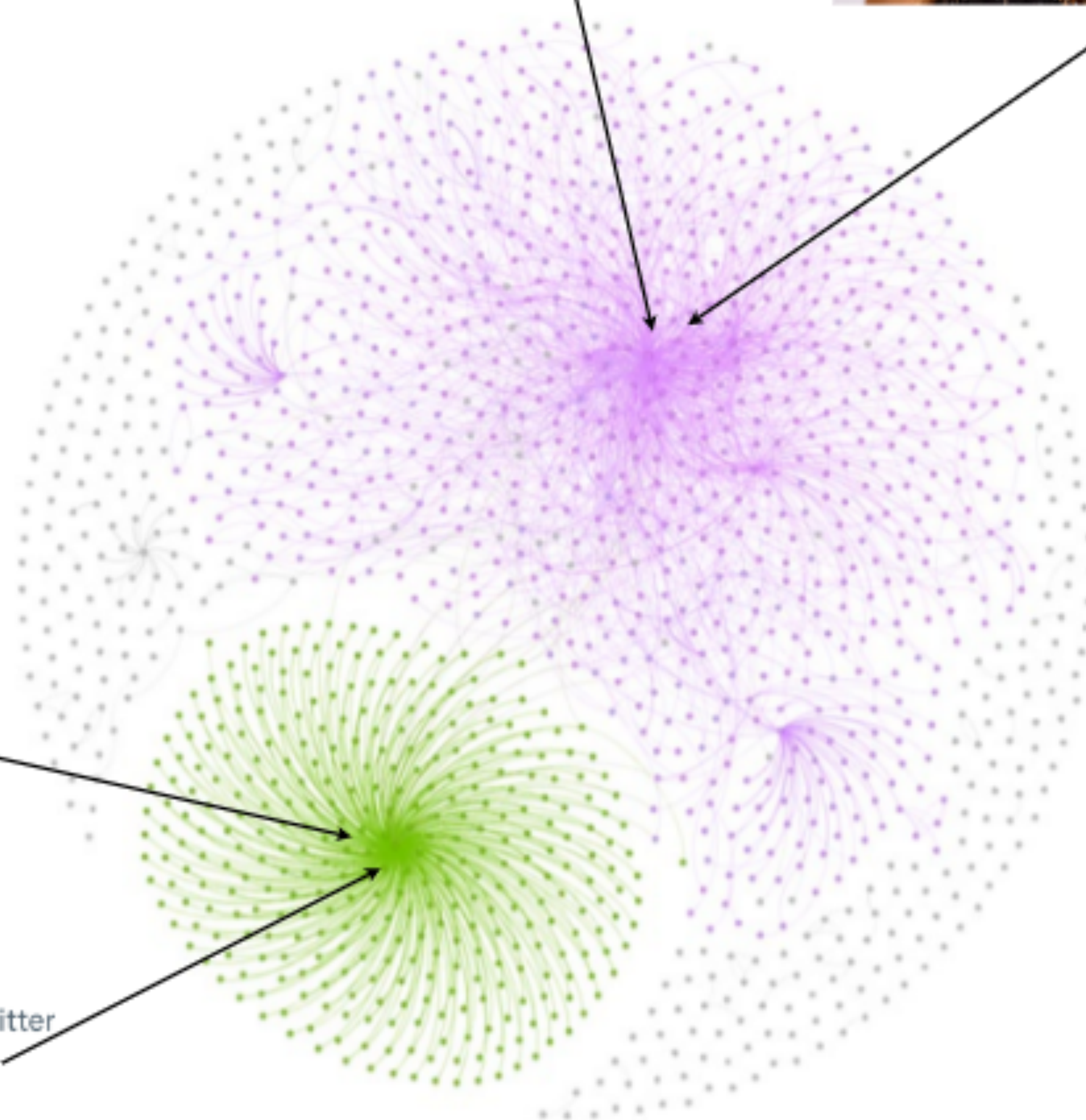**This account doesn't exist**

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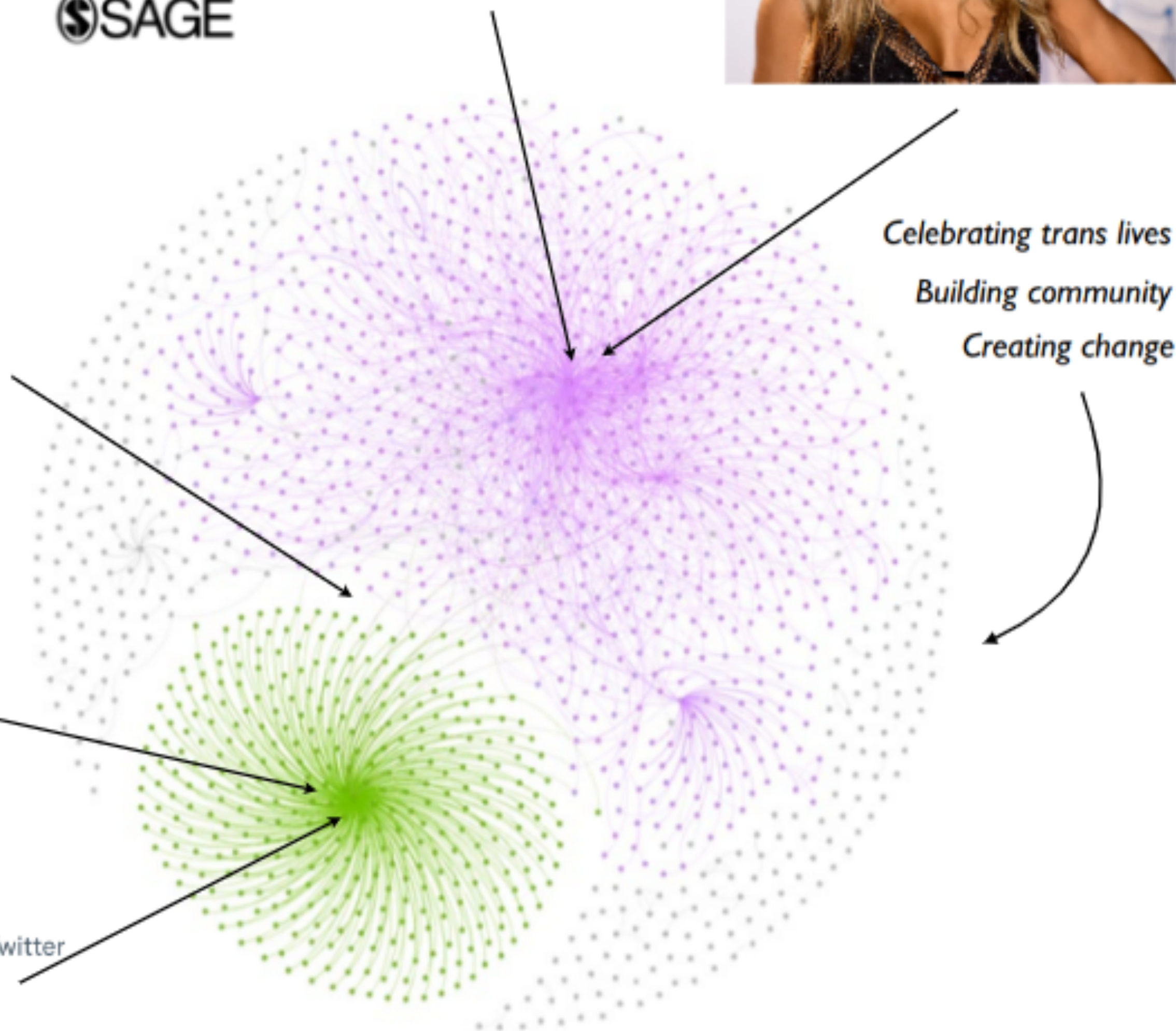
Why *that* telling of the story?

Justification

Many types of interdisciplinary research

"Coherence," by some name, tends to come up
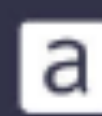
Why it matters depends on your stance

- Coherence: A *System of Beliefs* is coherent when the members of that system *Mutually Support* one another ("hangs together")

- View 1: Coherence between quant and qual (all the parts) is a *Necessary* criteria to meet when evaluating the quality of your research, but there could be other criteria you need to meet

- View 2: Coherence is *By Itself Sufficient*

- View 3: Coherence is neither necessary nor sufficient, yet meeting it *Boosts* the quality of your work

- View 4: Incoherent work is *Unjustified*
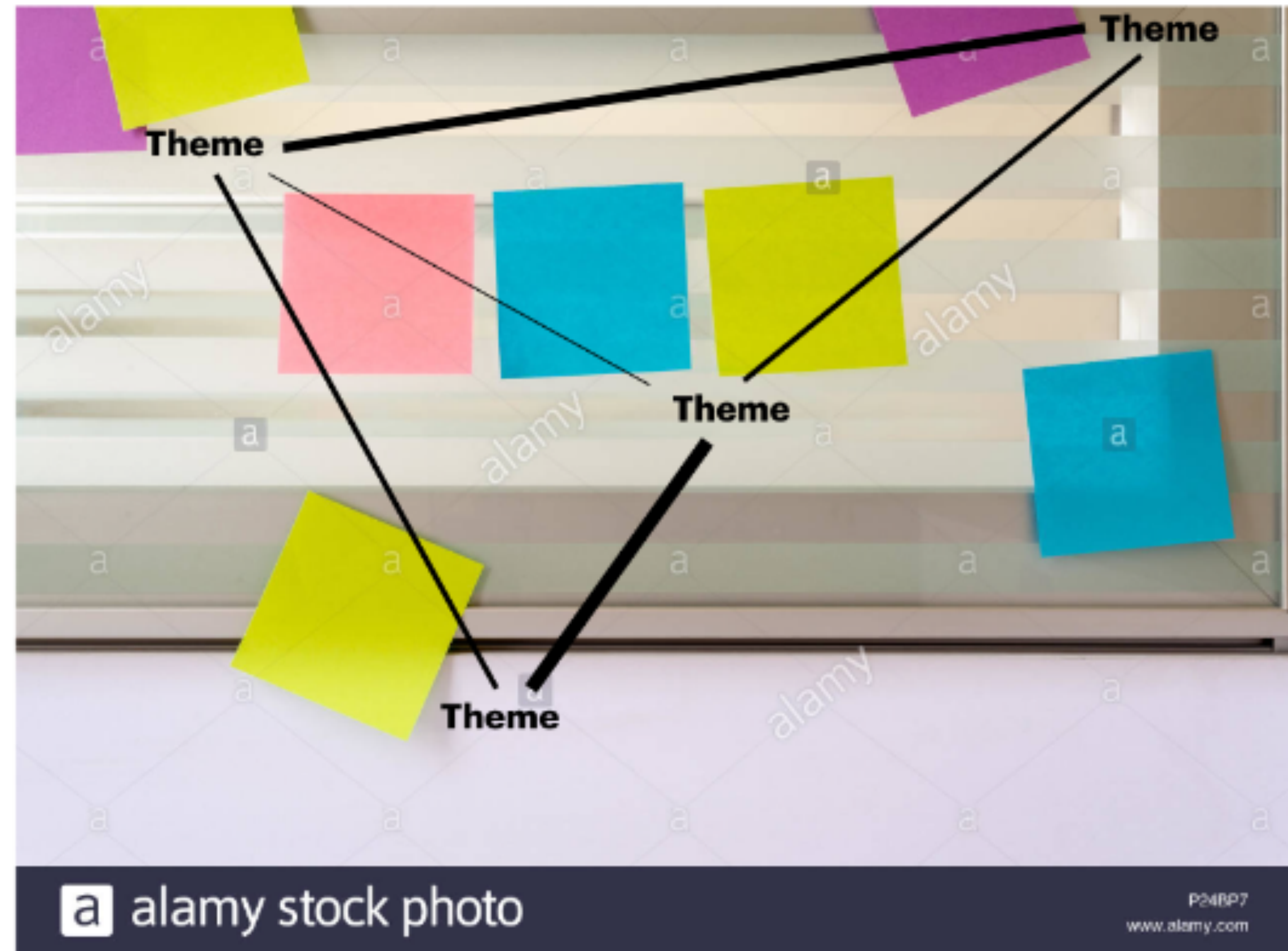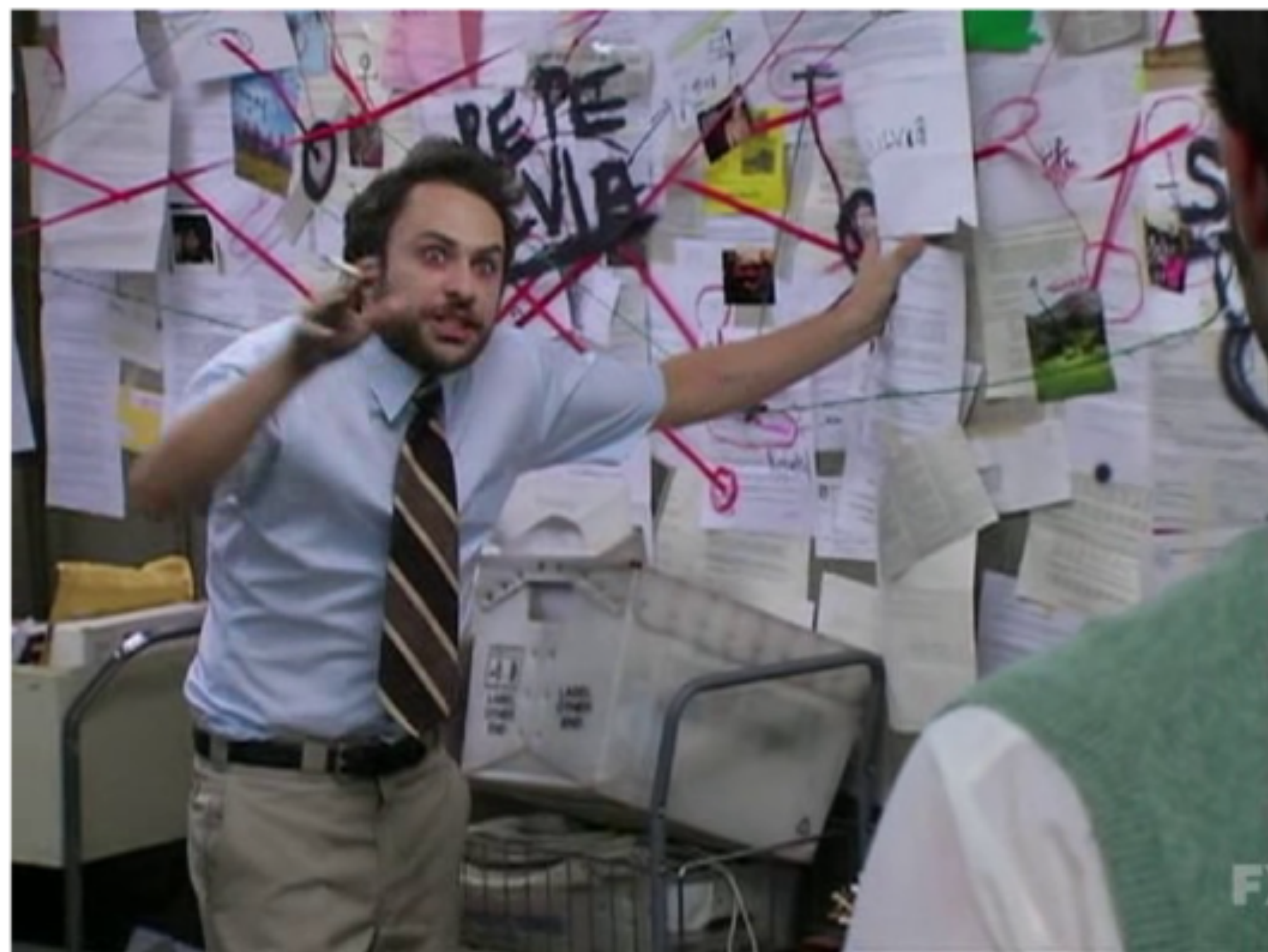
- If you are right (about your themes and how you've arranged them in relation to your data)

- And you have a grip on your data

- Then there is an underlying mathematical relationship

- We can use that for statistical evidence for saturation

- We can use that to guide the turns of our story

Qualitative Coding
What we saw and where we saw it

Family	Name	Letter	Recipe	DoseTracking	SkippedDose	Happy	NonHappy	Sweets	Oily	Friends	Out	Doubt	Cry	Passed	Religion	Date
0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	February 14, 2020
0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	February 15, 2020
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	February 16, 2020
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	February 17, 2020
0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	February 18, 2020
0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	February 19, 2020
0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	February 20, 2020
0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	February 21, 2020
0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	February 22, 2020
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0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	February 24, 2020
0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	February 25, 2020
0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	February 26, 2020

Claim

Each cell is a researcher claim about the state of the world

Family	Name	Letter	Recipe	DoseTracking	SkippedDose	Happy	NonHappy	Sweets	Oily	Friends	Out	Doubt	Cry	Passed	Religion	Date
0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	February 14, 2020
0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	February 15, 2020
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	February 16, 2020
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	February 17, 2020
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0	0	0	9	1	0	1	0	0	0	0	0	0	0	0	0	February 19, 2020
0	0	0	20	1	0	0	0	0	0	0	0	1	0	0	0	February 20, 2020
0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	February 21, 2020
0	0	0	22	1	0	0	1	1	0	0	0	0	0	0	0	February 22, 2020
0	0	0	23	0	1	0	1	1	0	0	0	0	0	0	0	February 23, 2020
0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	February 24, 2020
0	0	0	25	1	0	1	0	0	0	0	0	0	0	0	0	February 25, 2020
0	0	0	26	0	1	1	0	0	0	0	0	0	0	0	0	February 26, 2020

Point Cloud

Each row becomes a point in a high dimensional space

(0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0)

Family	Name	Letter	Recipe	DoseTracking	SkippedDose	Happy	NonHappy	Sweets	Oily	Friends	Out	Doubt	Cry	Passed	Religion	Date
0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	February 14, 2020
0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	February 15, 2020
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	February 16, 2020
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	February 17, 2020
0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	February 18, 2020
0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	February 19, 2020
0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	February 20, 2020
0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	February 21, 2020
0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	February 22, 2020
0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	February 23, 2020
0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	February 24, 2020
0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	February 25, 2020
0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	February 26, 2020

Multi-Dimensional Scaling
Flatten the space while highlighting features of interest

Original 3D Data

2D UMAP Projection

Like this, but it's from like 27D data down to just 2D!!!

Close the Interpretive Loop

Use quant features (a well chosen one-inch picture frame) to guide how you re-read (question, interpret, ...) the original qual data
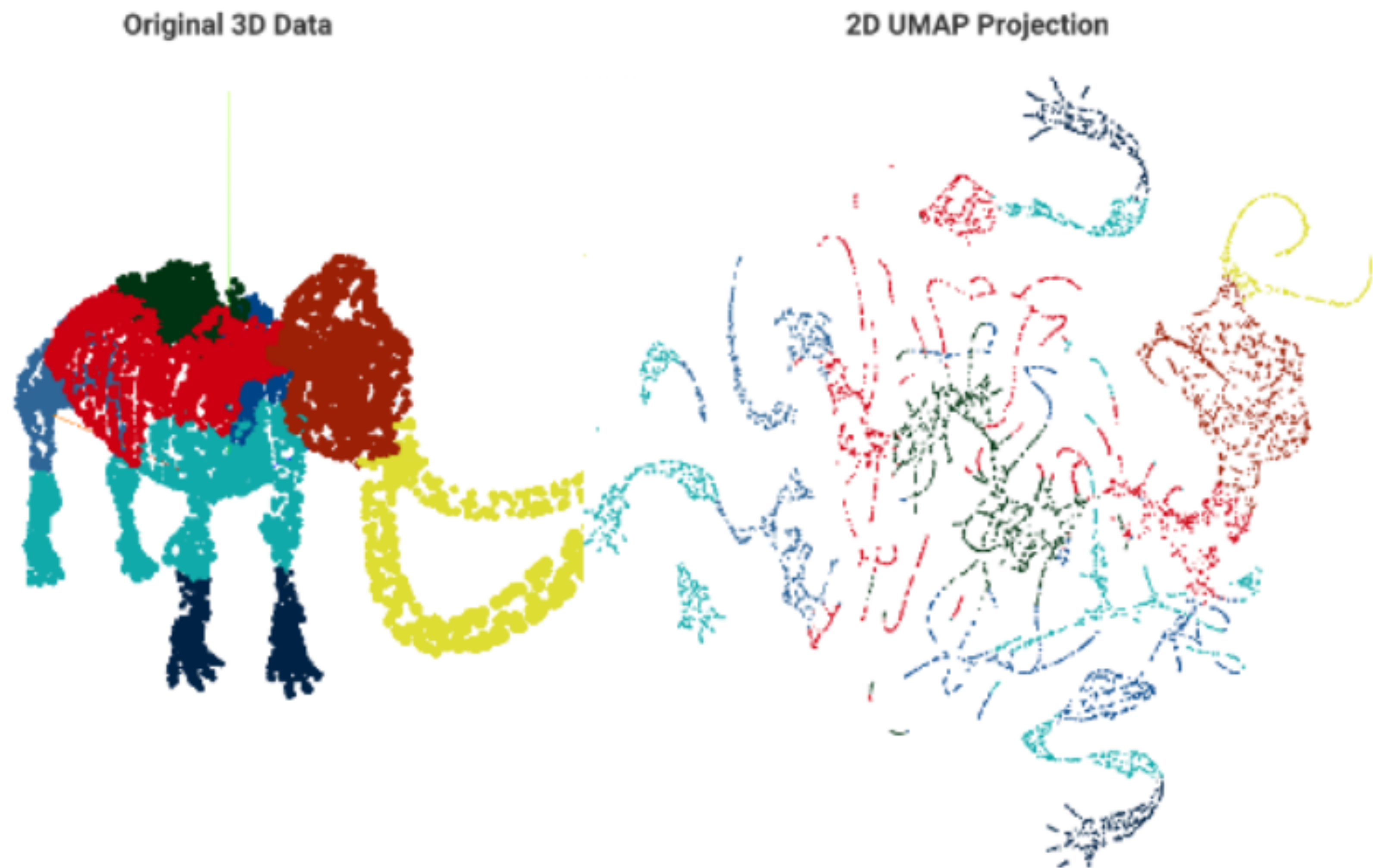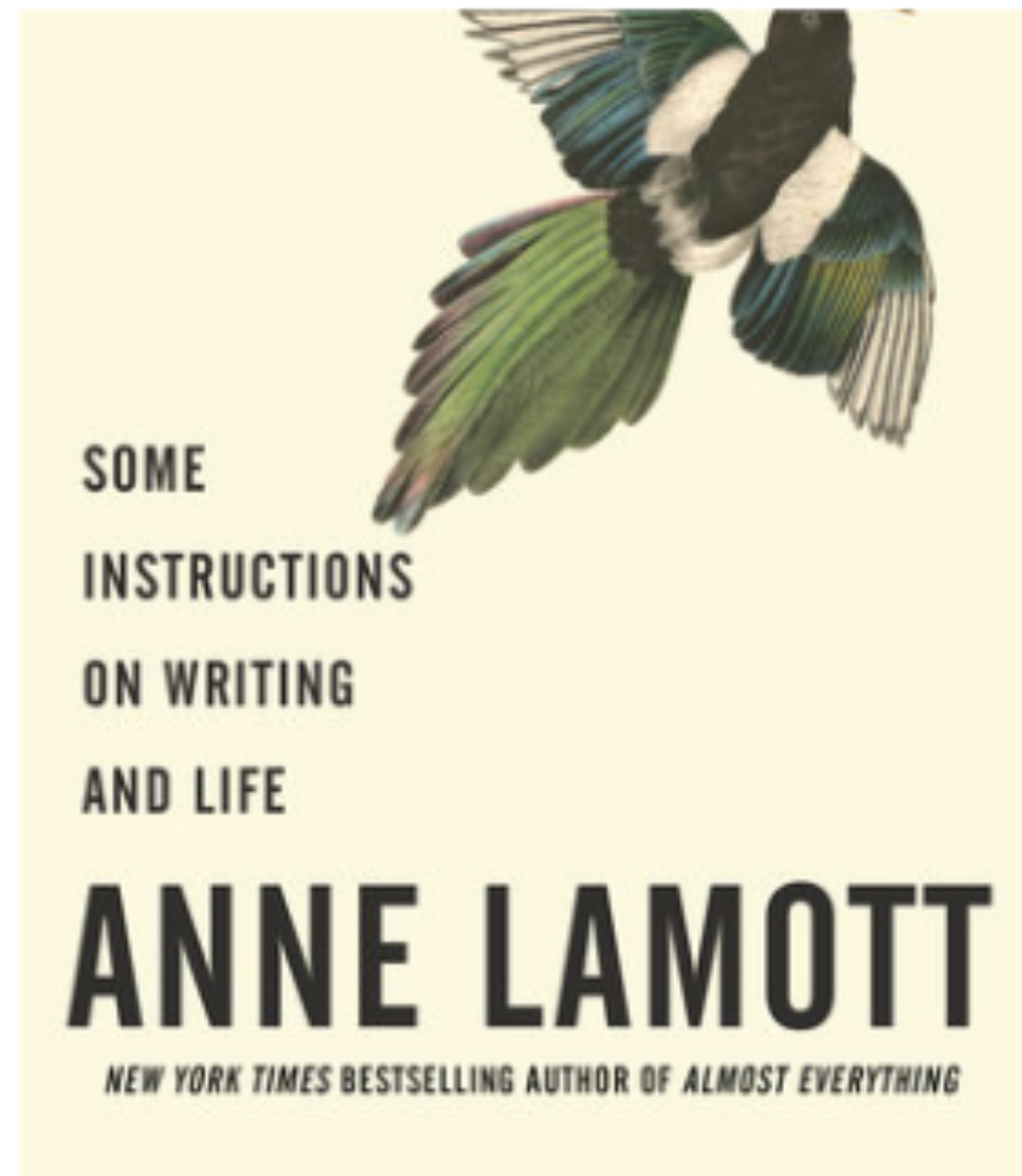
Like this, but it's fr

25TH ANNIVERSARY EDITION

BIRD BY BIRD

SOME INSTRUCTIONS ON WRITING AND LIFE

ANNE LAMOTT

NEW YORK TIMES BESTSELLING AUTHOR OF *ALMOST EVERYTHING*

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2D UMAP Projection

- Stories are composed of a set of phenomena and the interweaving between them.

Family	Name	Letter	Recipe	DoseTracking	SkippedDose	Happy	NonHappy	Sweets	Oily	Friends	Out	Doubt	Cry	Passed	Religion	Date
0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	February 14, 2020
0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	February 15, 2020
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	February 16, 2020
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0	0	0	8	1	0	0	0	1	0	0	0	0	0	0	0	February 18, 2020
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0	0	0	20	1	0	0	0	0	0	0	0	1	0	0	0	February 20, 2020
0	0	0	1	0	1	1	0	0	1	0	0	0	0	0	0	February 21, 2020
0	0	0	22	1	0	0	1	1	0	0	0	0	0	0	0	February 22, 2020
0	0	0	23	0	1	0	1	1	0	0	0	0	0	0	0	February 23, 2020
0	0	0	24	0	1	1	0	1	0	0	0	0	0	0	0	February 24, 2020
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- We hang those paragraphs together into some larger global narrative structure, and that global structure usually has analytical import

Original 3D Data   2D UMAP Projection

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2D UMAP Projection

SOME INSTRUCTIONS ON WRITING AND LIFE

ANNE LAMOTT

NEW YORK TIMES BESTSELLING AUTHOR OF *ALMOST EVERYTHING*

- Coherence: A *System of Beliefs* is coherent when the members of that system *Mutually Support* one another ("hangs together")

- Coherence: A *System of Beliefs* is coherent when the members of that system *Mutually Support* one another ("hangs together")

- Our conceptual categories ("codes") help explain our research questions, in terms of our qual understanding ("initial read of the data")

- Our qual understanding drives the choice of projection when modeling instances of the conceptual categories we observed

- Our projected space provides evidence of saturation and highlights features of the structure of the data

Telling Stories of Transitions: A Demonstration of Nonlinear Epistemic Network Analysis

Mariah A. Knowles ✉
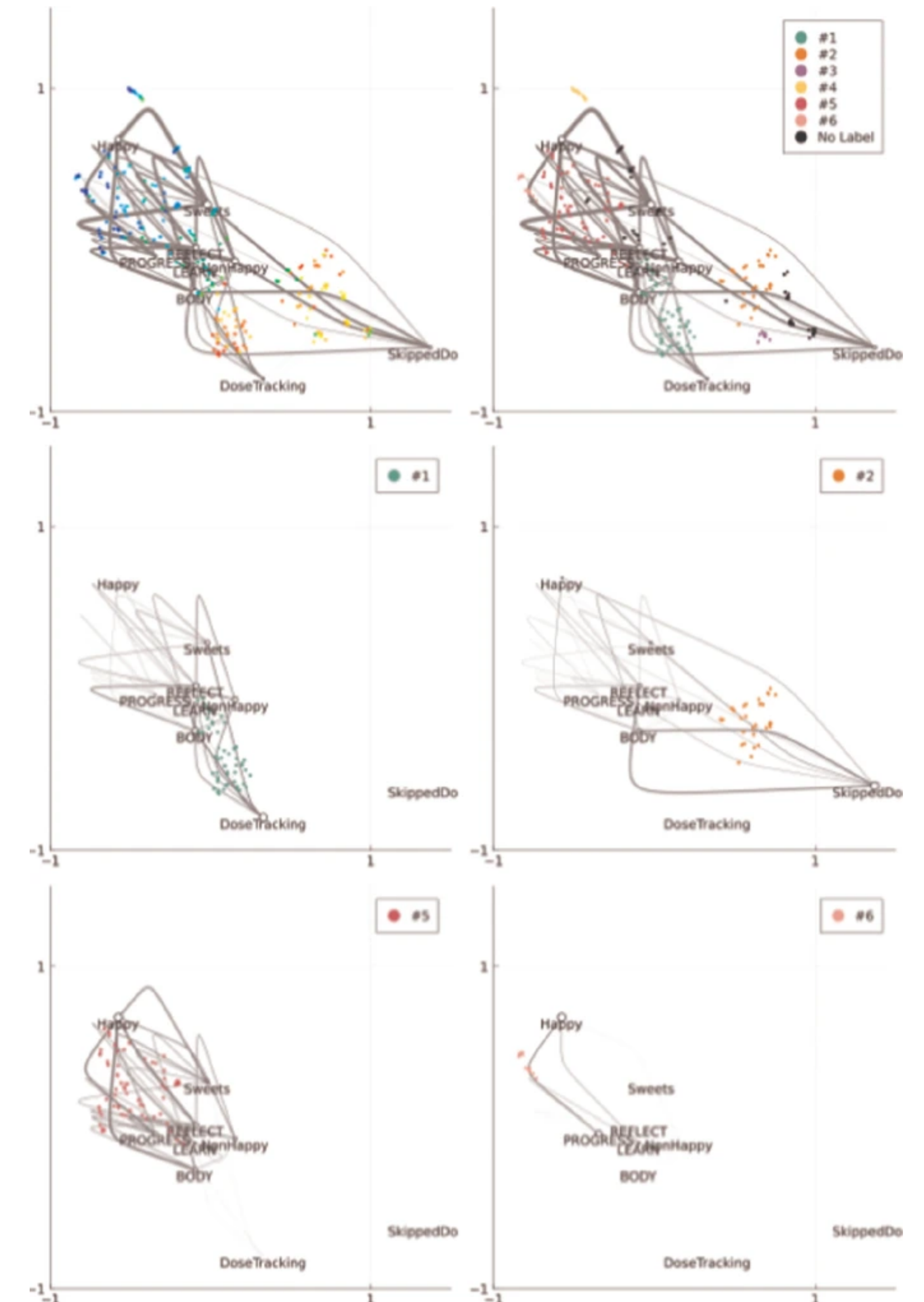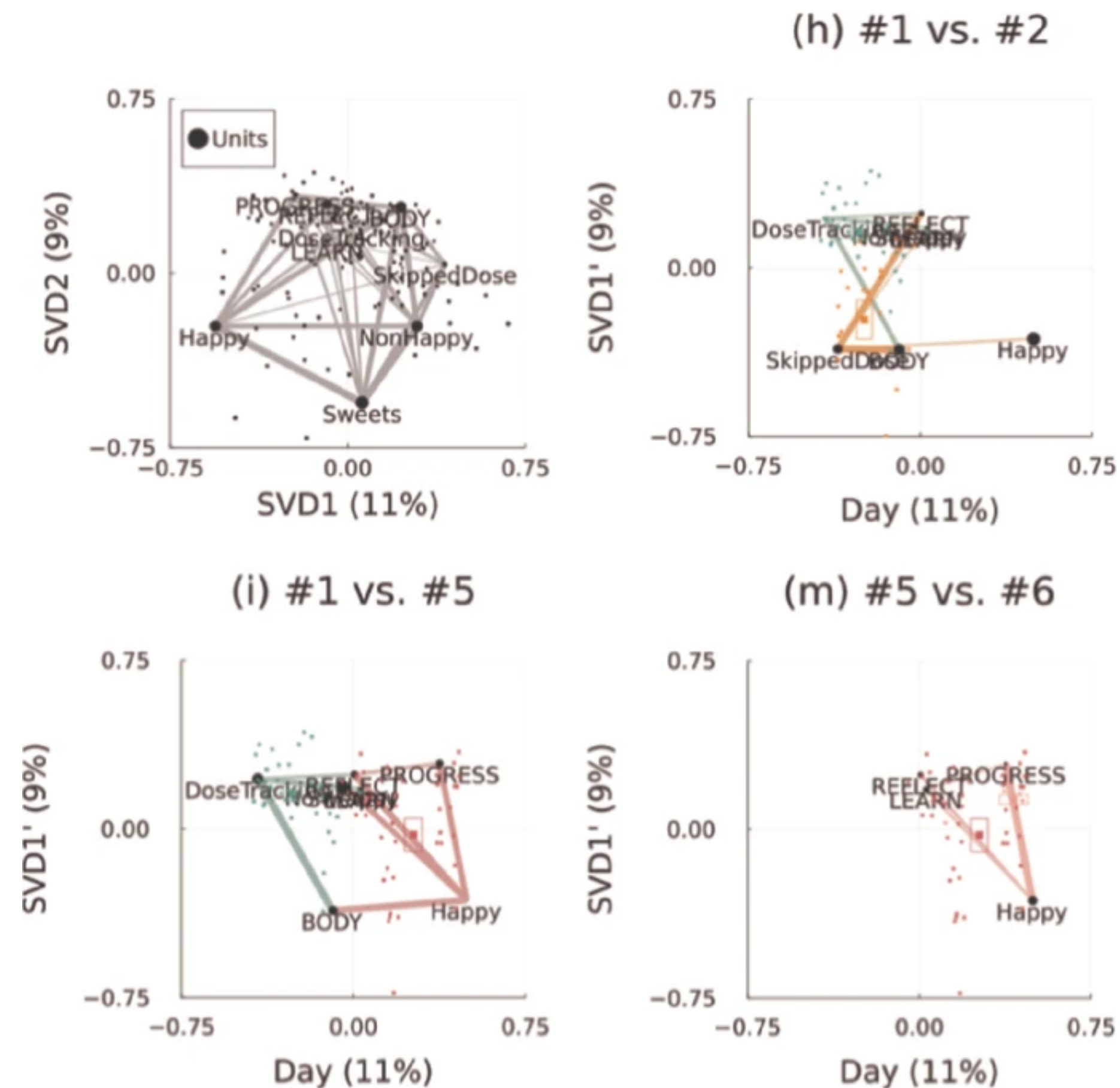
Welcome

Place a Referral

e-Consults (Internal to UCSF Medical Center only)

UCSF Transgender Care & Treatment Guidelines ▾

Introduction

Contributors

Grading of evidence

Terminology

Clinic environment

Physical examination

Overview of feminizing hormone therapy

Primary Author(s): Madeline B. Deutsch, MD, MPH

Publication Date: *June 17, 2016*

Introduction

The goal of feminizing hormone therapy is the development of female secondary sex characteristics, and suppression/minimization of male secondary sex characteristics. General effects include breast development (usually to Tanner stage 2 or 3), a redistribution of facial and body subcutaneous fat, reduction of muscle mass, reduction of body hair (and to a lesser extent, facial hair), change in sweat and odor patterns, and arrest and possible reversal of scalp hair loss. Sexual and gonadal effects include reduction in erectile function, changes in libido, reduced or absent sperm count and ejaculatory fluid, and reduced testicular size. Feminizing hormone therapy also brings about changes in emotional and social functioning. The general approach of therapy is to combine an estrogen with an androgen blocker, and in some cases a progestogen.
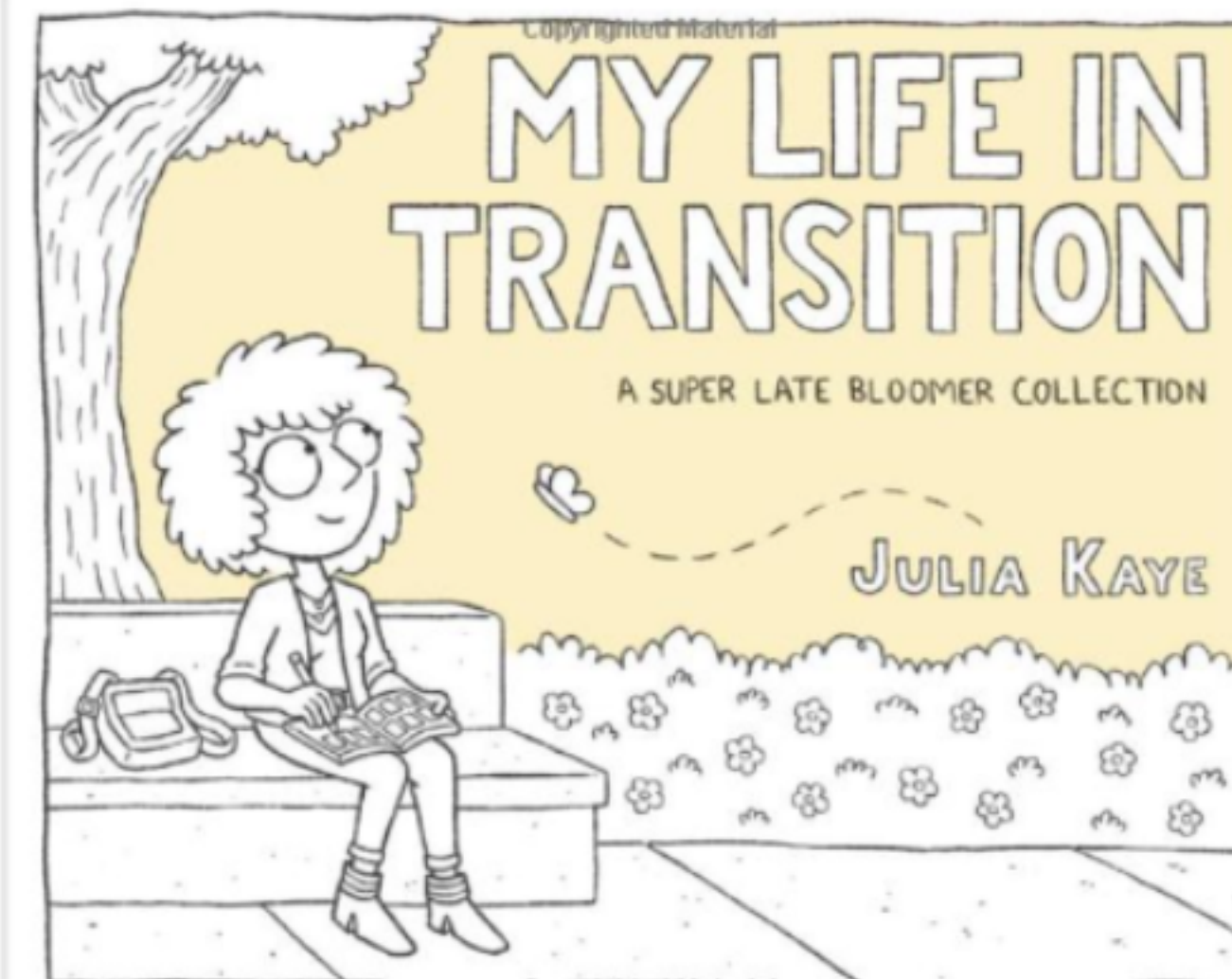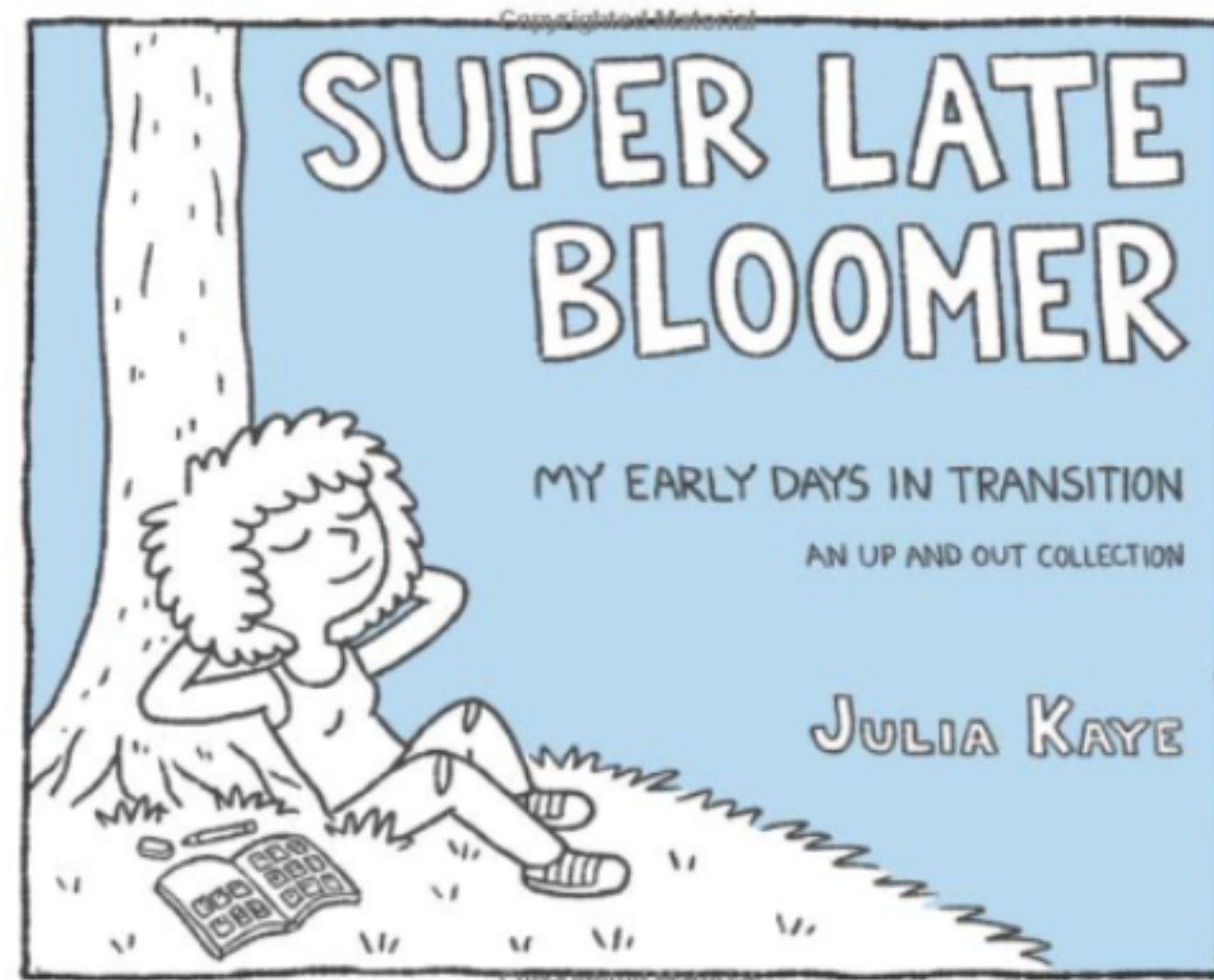
Day	Date	Note	WWW	Identity	Lo
84	May 8, 2020	4:55p two important memories - wearing a skirt with kim - wearing the i <3 ny shirt from victoria	0	0	
85	May 9, 2020	7:10p read cosmo's What It's Really Like t "if you want hormones, take hormones. if y "before, i would look in the mirror and see throughout, talk of a calm to a storm	1	0	

Label	N	Code
DoseTracking	42	A journal entry tracking the exact time of an HRT does. *Eg.* "7:35a e."
Happy	136	A checkbox marking days in which I felt happy.
NonHappy	120	A checkbox marking days in which I felt a non-happy emotion, such as anxiety, depression, etc.
SkippedDose	95	A checkbox marking days on which I skipped my HRT dose.
Sweets	130	A checkbox marking days on which I craved sweets, such as chocolate or caffeinated drinks.
BODY		*Various codes tracking changes to my body, feelings, and behaviors, either as a checkbox or a journal entry.*
Changes	39	A journal entry tracking changes to my body, feelings, or behaviors. *Eg.* "Haven't felt [mental] fog in a while."
Cry	11	A checkbox or journal entry making days that I cried.
Dysphoria	35	A journal entry reflecting on dysphoric experiences or gender dysphoria generally. *Eg.* "Trying to shop for primer at Target, this is just like trying to renew Rx at CVS, stressful."
Mood	34	A journal entry explaining a mood that I felt that day in more detail than a checkbox. *Eg.* "I've been on high alert."
Oily	34	A checkbox marking days on which my skin was oily.
LEARN		*Various codes tracking my efforts to self-teach about (trans)womanhood.*
Experiment	29	A journal entry reflecting on my experiments with clothes, my dosage amount (under the supervision of my gender specialist), etc. *Eg.* "Tried something new with my makeup."
Recipe	5	A journal entry spelling out a "recipe" I did not want to forget from some experimentation, such as a makeup routine.
WWW	22	A journal entry containing a URL, reflecting on experiences online, or recording information collected online. *Eg.* "I like this video [URL] [on being okay with who you are]"
REFLECT		*Various codes tracking my reflections with my identity as situated within or connected to various domains.*
Childhood	32	A journal entry reflecting on childhood memories.
Doubt	9	A journal entry reflecting on my doubts with transitioning.
Dream	13	A journal entry recounting and/or reflecting on dreams I had in the nights before. *Eg.* "Had a dream last night about not being able to find the right restroom."
Family	10	A journal entry mentioning a family member. *Eg.* "...looking at a photo of my grandma..."
Identity	33	A journal entry reflecting on my own identity as a transwoman. *Eg.* "'This is one of my favorite videos, [link], 'You have unconditional permission to be your ******* self' "
Letter	4	A journal entry in which I drafted a letter to a friend or family member.
Longing	17	A journal entry reflecting longing for changes to my body, feelings, or behaviors.
Name	18	A journal entry conceptualizing possible changes to my legal name.
Religion	1	A journal entry reflection on my relationship with my faith. *Eg.* "Prayed last night, asked for clarity and courage."
PROGRESS		*Various codes tracking my progress towards my transition goals.*
Affirmation	35	A journal entry written as an affirmation to myself. *Eg.* "Accepting myself as a woman makes sense."
Out	18	A checkbox marking days on I came out to someone new.
Passed	11	A checkbox marking days in which I passed in public, either by accident or on purpose.
Strangers	24	A journal entry reflecting on experiences with strangers. *Eg.* "They guy at Taco Bell said ma'am."

Table 1. Codebook

Original 3D Data

2D UMAP Projection
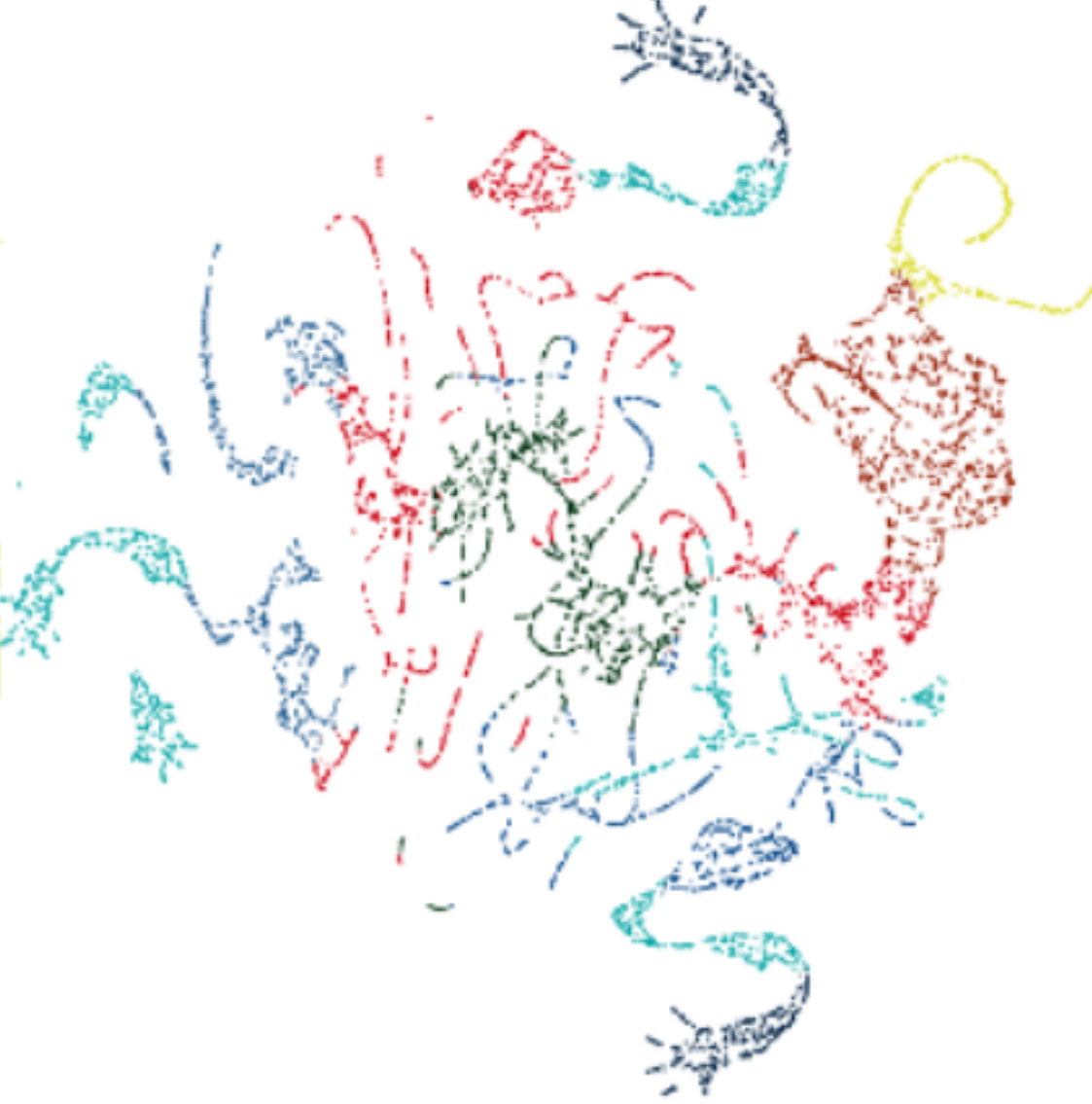
Experiencing Transitions: An Emerging Middle-Range Theory

Meleis, Afaf Ibrahim PhD, FAAN; Sawyer, Linda M. PhD, RN; Im, Eun-Ok PhD, RN; Hilfinger Messias, DeAnne K. PhD, RN; Schumacher, Karen PhD, RN

Author Information ⊘

Time span

All transitions are characterized by flow and movement over time.[2] Bridges[19,20] characterized transition as a time span with an identifiable end point, extending from the first signs of anticipation, perception, or demonstration of change; through a period of instability, confusion, and distress; to an eventual "ending" with a new beginning or period of stability. However, the results of the research examined here suggest that it may be difficult or impossible, and perhaps even counterproductive, to put boundaries on the time span of certain transition experiences.[6] The stories told by parents of infants with CHD indicated that their transition did not always follow the same chronological trajectory. Migration provided another case in point.[7] Immigrants may consider their transition as "temporary" even though they may live in another country for an extended period. Even for those who settle permanently, the migration experience may best be characterized as an ongoing, undulating, unending transition. This does not necessarily mean that immigrants or others experiencing long-term transitions are constantly in a state of disconnectedness, flux, or change. However, such states may periodically surface, reactivating a latent transition experience. In evaluating transition experiences, it is important to consider the possibility of flux and variability over time, which may necessitate reassessment of outcomes.

Experiencing Transitions: An Emerging Middle-Range Theory

Meleis, Afaf Ibrahim PhD, FAAN; Sawyer, Linda M. PhD, RN; Im, Eun-Ok PhD, RN; Hilfinger Messias, DeAnne K. PhD, RN; Schumacher, Karen PhD, RN
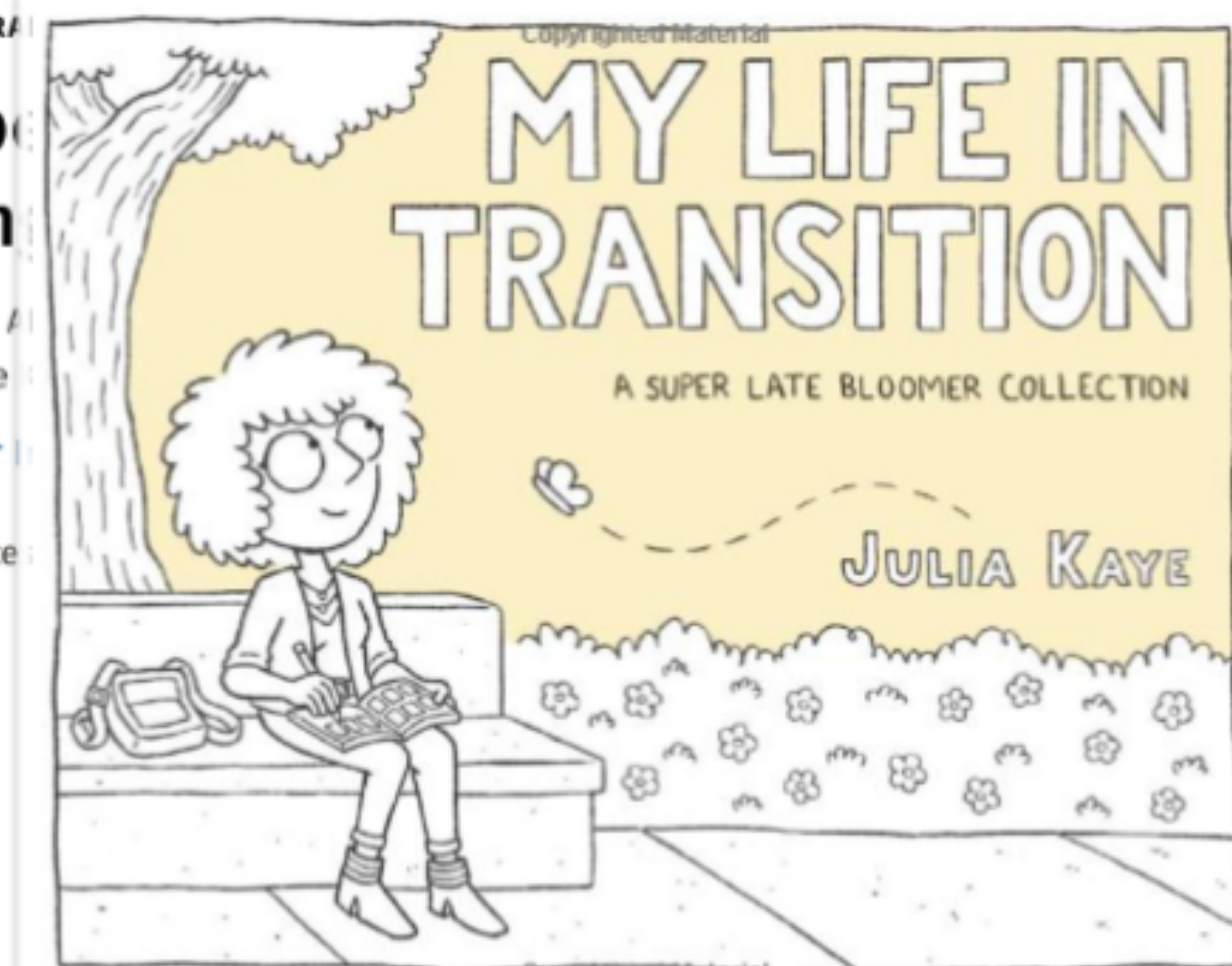
Author Information ⌄

**Time span**

Critical points and events

Some transitions are associated with an identifiable marker event; such as birth, death, the cessation of menstruation, or the diagnosis of an illness; while in other transitions specific marker events are not as evident. [19,20] The various studies involving multiple transitions provided evidence that most transition experiences involved critical turning points or events. Critical points were often associated with increasing awareness of change or difference or more active engagement in dealing with the transition experience. In addition, there were final critical points, which were characterized by a sense of stabilization in new routines, skills, lifestyles, and self-care activities. In each study there was a period of uncertainty marked with fluctuation, continuous change, and disruption in reality. Symptoms related to the transition might also occur. During a period of uncertainty there were a number of critical points depending on the nature of the transition. Each critical point requires the nurse's attention, knowledge, and experience in different ways.

variability over time, which may necessitate reassessment of outcomes.

Exp... ddle-
Ran...

Meleis, A...
DeAnne...

Author ...

Advance ...

MY LIFE IN TRANSITION

A SUPER LATE BLOOMER COLLECTION

JULIA KAYE

As the project neared completion, I thought back on how much of an impact seeing people who were trans sharing the stories of their lives had on normalizing my feelings about myself. And not just stories about the turbulent early stages of transition, but the mundane experiences of day-to-day life. It had been so important to see that life really did go on; that we're just people with the same wants and needs as anyone else.

Time span

...itical points and events

...me transitions are associated with an identifiable marker event; such as birth, ...ath, the cessation of menstruation, or the diagnosis of an illness; while in other ...nsitions specific marker events are not as evident.[19,20] The various studies ...volving multiple transitions provided evidence that most transition experiences ...volved critical turning points or events. Critical points were often associated ...th increasing awareness of change or difference or more active engagement in ...aling with the transition experience. In addition, there were final critical points, ...ich were characterized by a sense of stabilization in new routines, skills, ...yles, and self-care activities. In each study there was a period of uncertainty ...ed with fluctuation, continuous change, and disruption in reality. Symptoms ...ed to the transition might also occur. During a period of uncertainty there ...a number of critical points depending on the nature of the transition. Each ...al point requires the nurse's attention, knowledge, and experience in ...ent ways.
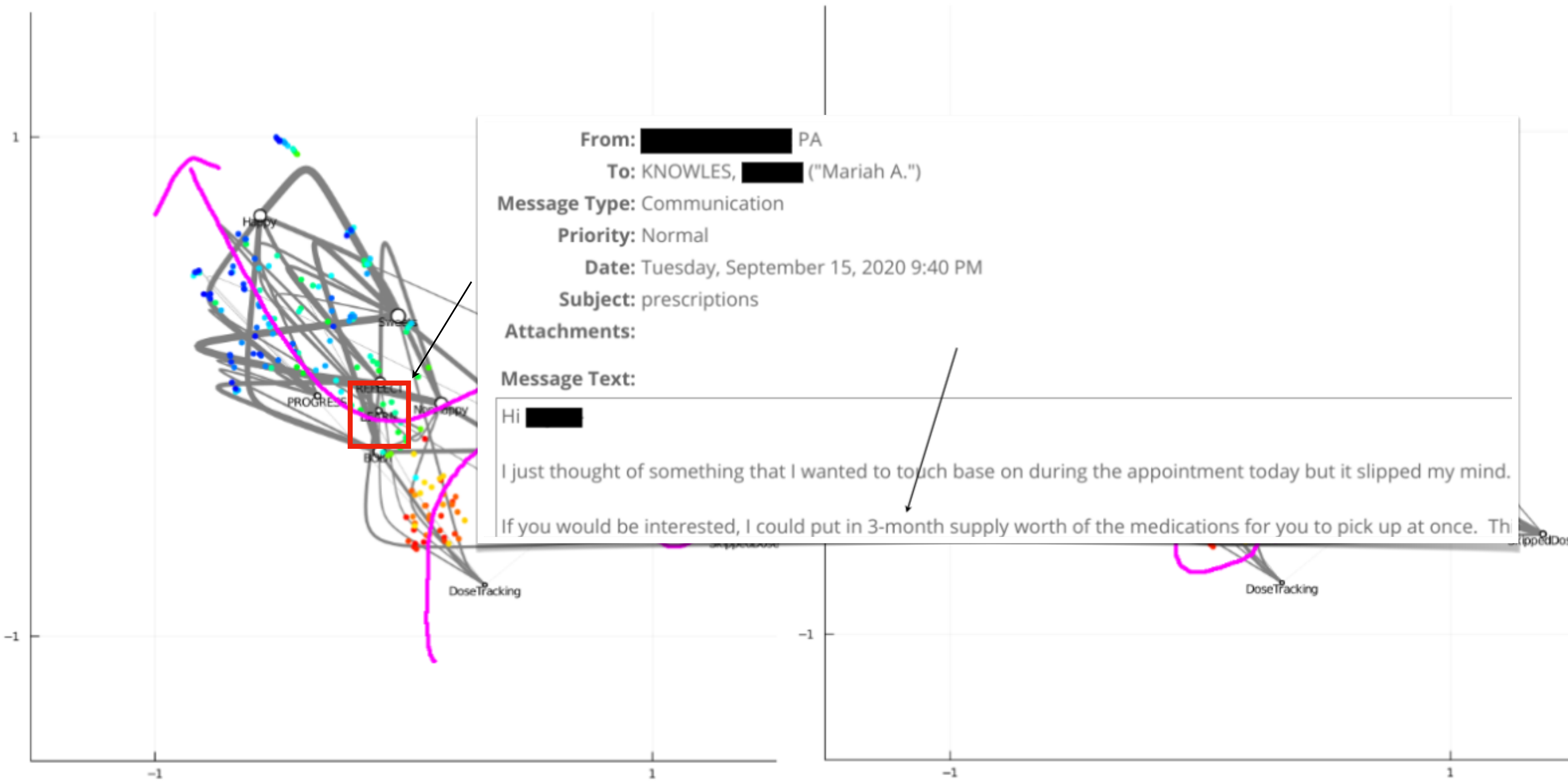
...variability over time, which may necessitate reassessment of outcomes.

From: ▮▮▮▮▮▮▮▮▮ PA
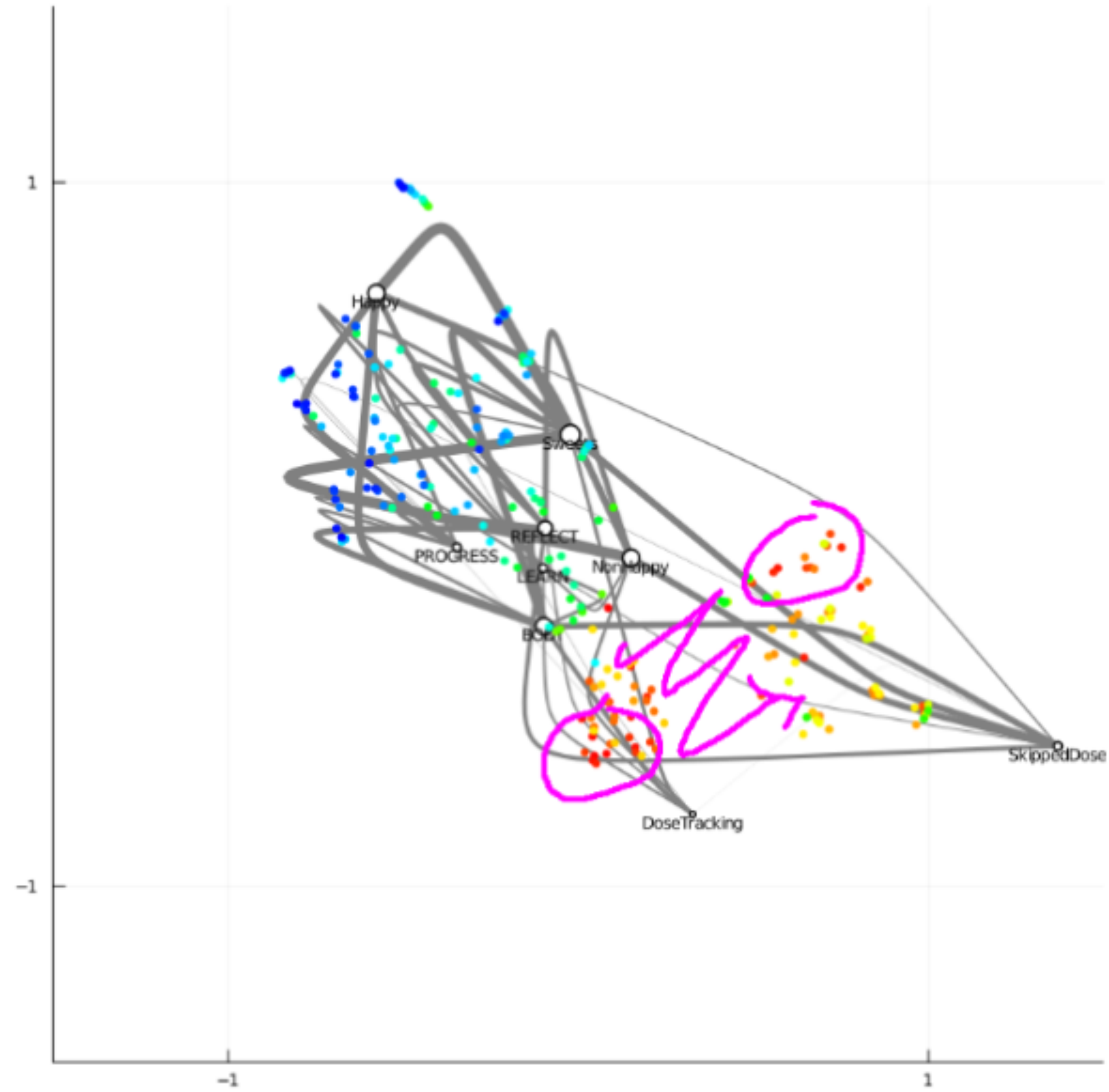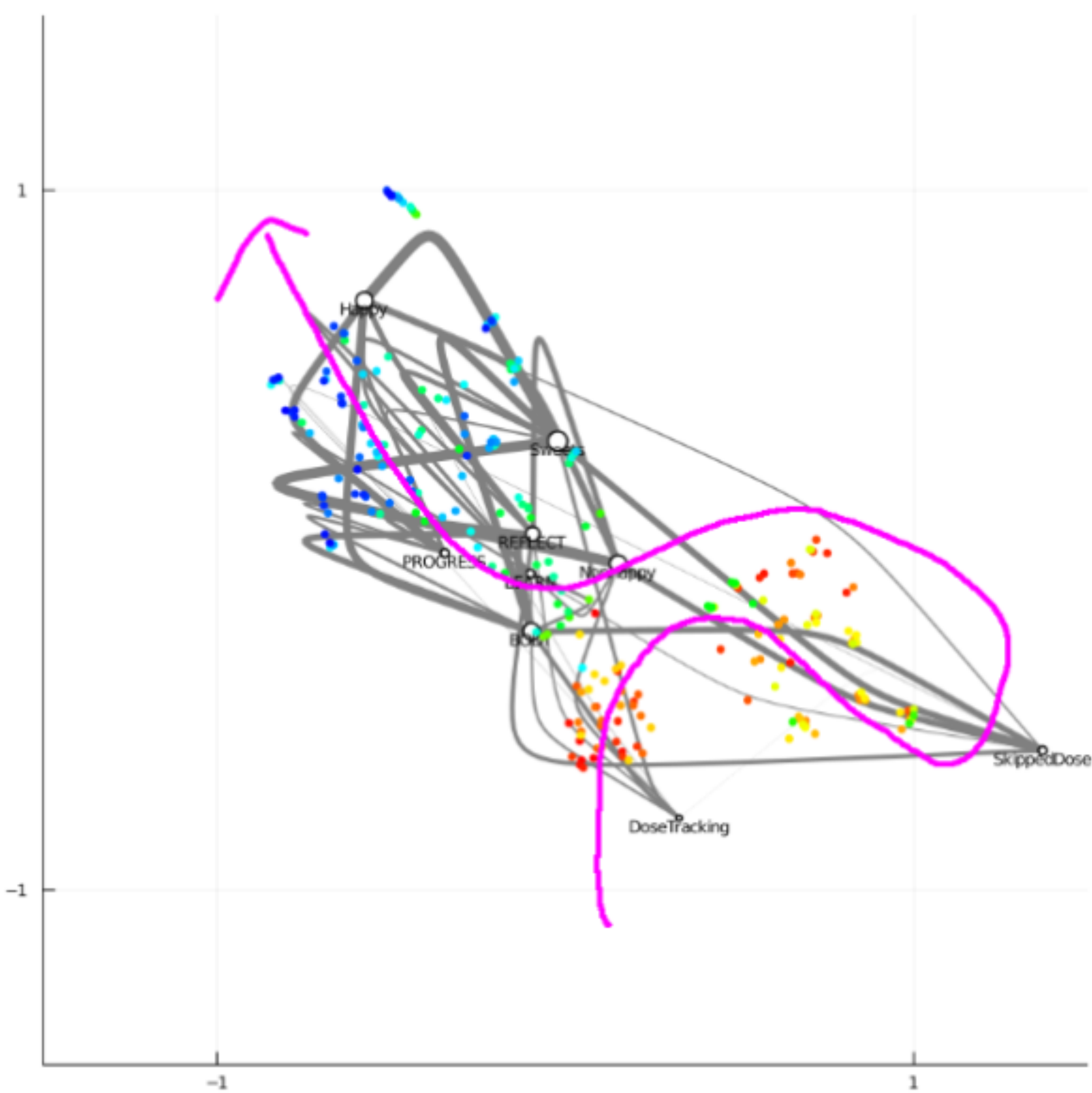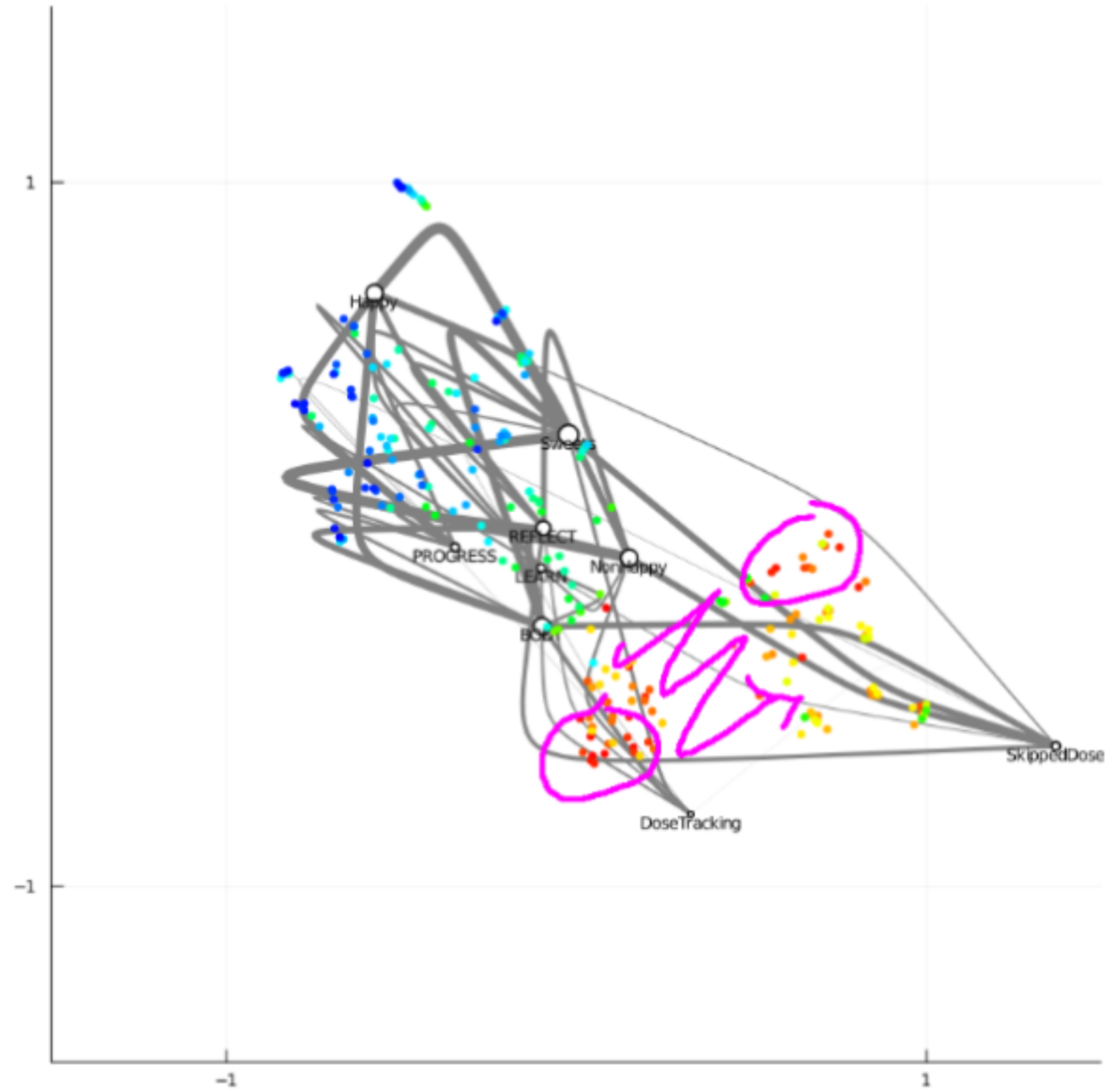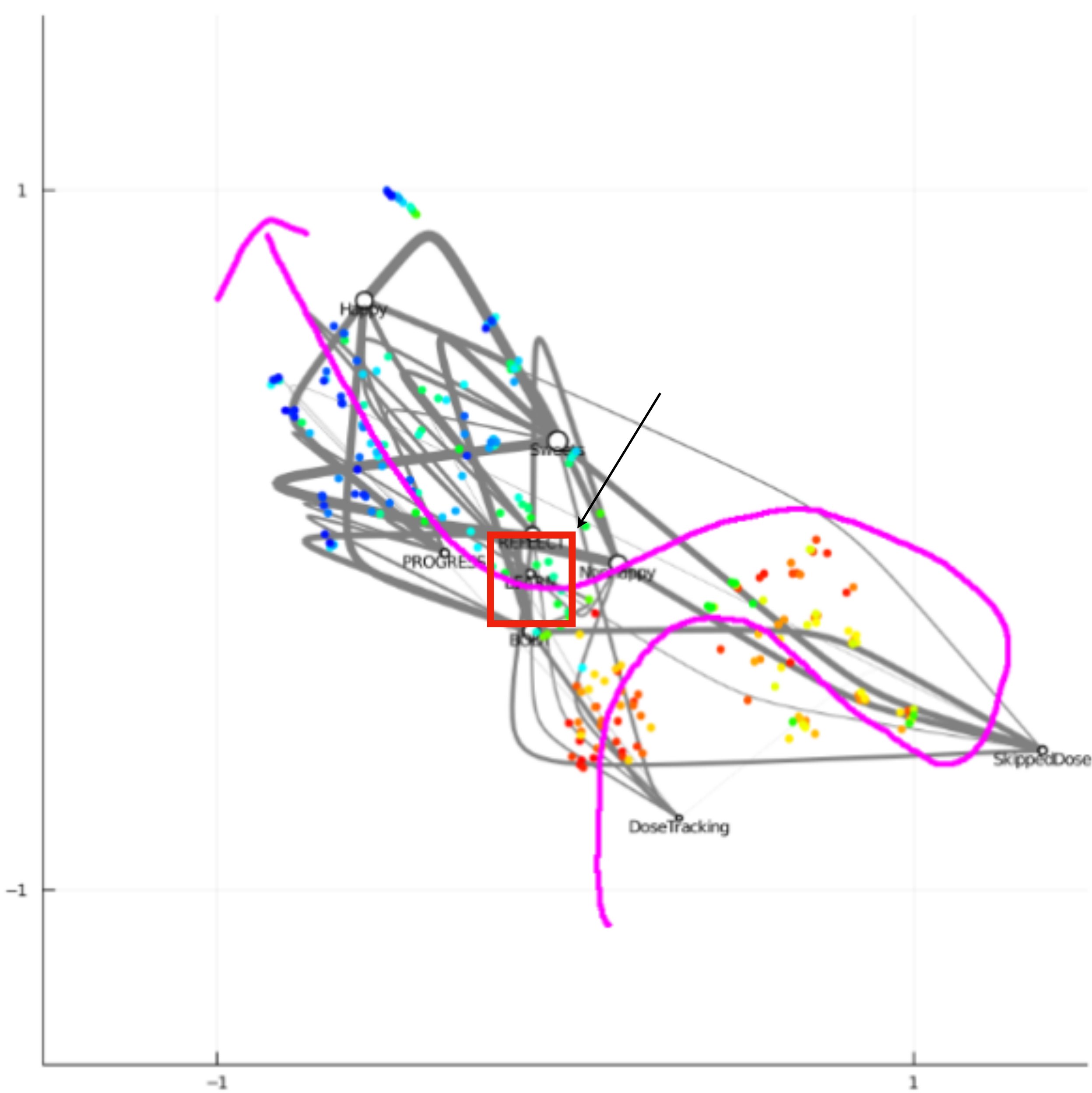
To: KNOWLES, ▮▮▮▮ ("Mariah A.")

Message Type: Communication

Priority: Normal

Date: Tuesday, September 15, 2020 9:40 PM

Subject: prescriptions

Attachments:

Message Text:

Hi ▮▮▮▮

I just thought of something that I wanted to touch base on during the appointment today but it slipped my mind.

If you would be interested, I could put in 3-month supply worth of the medications for you to pick up at once. Thi

(i) Auto Cluster #5 - Auto Cluster #1
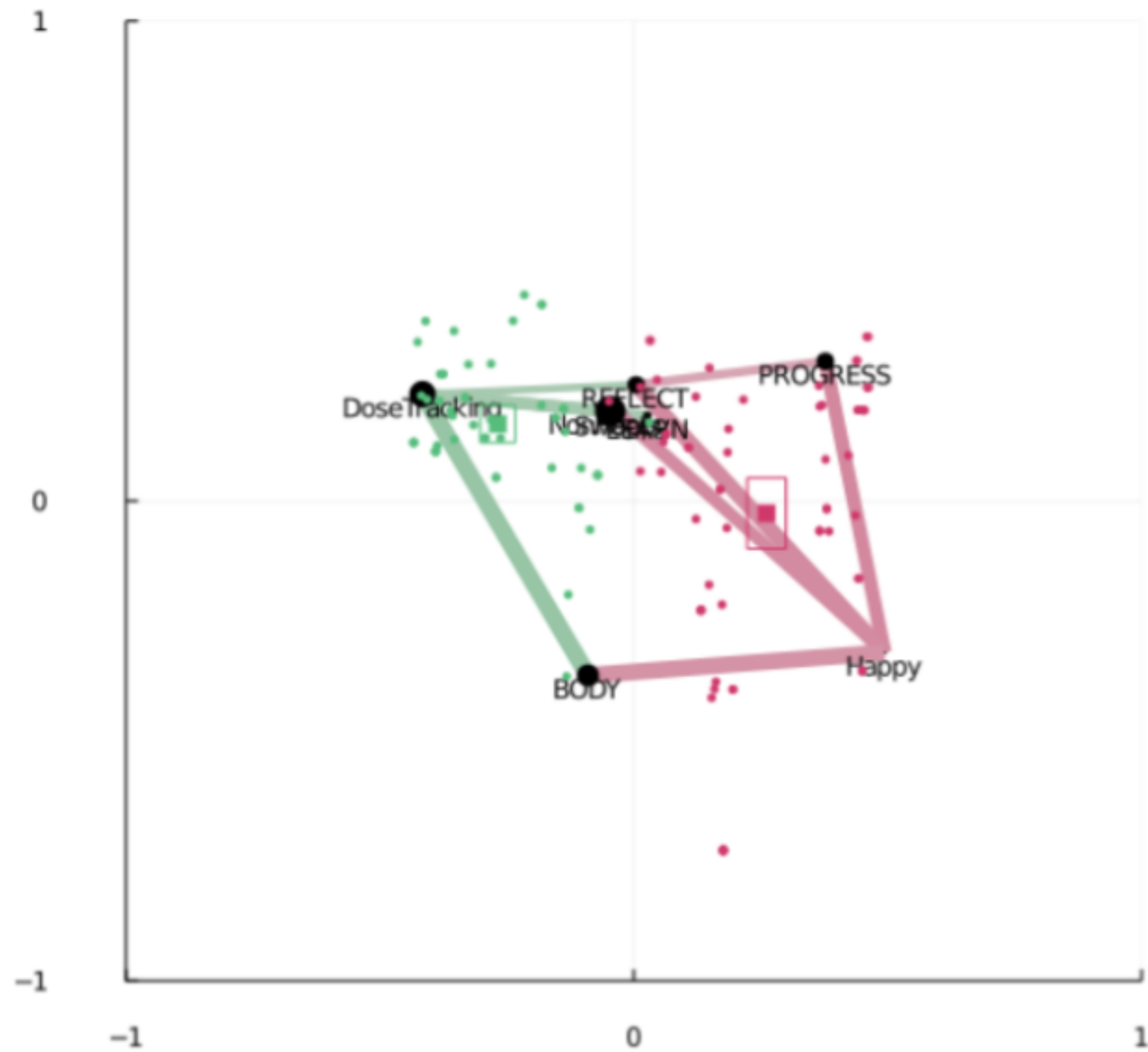
- Research has two steps

- Step one: Get the story fucking right

- Step two: Tell the moral of the story

- My role as a mixed-methods researcher: Tell a rich qualitative story whose turns are guided by quantitative features

- I tell the story of my first year on HRT, structured around certain twists and turns and an email from my doctor

- I did *not* tell the story structured around coming out to my advisor, choosing a new name, changes to my body, ...

Why *that* telling of the story?

ty

Mariah A. Knowles · she/her · mariah.knowles.codes