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Visualizing patient decision-making processes regarding choice of therapy with Epistemic Network Analysis: A worked example of manual coding and segmentation

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Abstract

Our research initiative aimed to explore patient decision-making concerning their choice of therapy: biomedicine, non-conventional medicine, or both. These decisions, occurring throughout the patient journey, are intricately tied to the patient's previous experiences, their trusted sources of information, and what they think caused their illness. We employed Epistemic Network Analysis (ENA) as an analytical system that enabled us to handle large amounts of data and capture the systemic nature of many variables involved. Yet applying Quantitative Ethnography (QE) techniques to continuous narratives (e.g. semi-structured interviews) in an inquiry where manual segmentation with a multitude of codes is preferred poses several challenges. In order to address these issues, we developed the Reproducible Open Coding Kit (ROCK) – convention, open source software, and interface – that eases manual coding, enables researchers to reproduce the coding process, compare results, and collaborate. Our aim is to broaden the usage of QE, while facilitating Open Science principles and transparency. Our webinar will elaborate our research, address issues surrounding the QE treatment of continuous narratives, and introduce the basic functionality of the ROCK. We hope to see you there!

Simon Buckingham Shum
Okay, welcome everybody. Good morning. Good evening. Good afternoon! Wherever you are, welcome to the inaugural meeting of the international webinar series for the International Society for Quantitative Ethnography.

I'm Simon Buckingham Shum, I'm at Sydney, and co-hosting with me is Brendan in Madison, Brendan Egan. You can tell us by our very high quality graphics behind us! It's great. We've got a gathering from right across the world here which is fantastic, and many more people are going to replay this afterwards. It's always tough to find the right time zone.

Now, this webinar series is response to the request in the, the first International Conference on quantitative ethnography for the chance for people to connect and keep learning about QE online in between the conferences. So this is, this is the kickoff, and we're going to be having a monthly webinar, right through to the end of the year. Apart from this month when we got a special double bail. It's going to be the first Thursday of every month. That's the easy way to remember it. And, except for those of us who are living in the future: first Friday, even easier to remember.

Okay. Now speaking of the QE conference. I'm just gonna hand over to Andrew, who is going to just give us a quick update on ISQE 2020.

Andrew Ruis
Thanks Simon hi everybody I'm Andrew Ruis, I am a researcher at the University of Wisconsin Madison, and I'm the Program Chair for IQ a 20 this year by the fact that you guys are all here you get to be the first to hear some exciting announcements about the conference. And all of this will be sent out in an email tomorrow morning so on. Don't worry about getting all the details down we'll be, we'll be sending that around tomorrow and of course publicizing in other ways as well. But the first big piece of news is that we are going to postpone the conference, until January 30 February 2, so that we have a better, better chance of being able to meet in person. we found that as many as 2019 but being able to gather in person was actually really an important part of the community building that we are really trying to encourage and so we're hoping that extending things. Three months later will give us a little bit better shot of being in a slightly better position here in the United States, and also hopefully we'll make it possible for people to travel and join in person. Of course we recognize that there will be people, even then that may not be able to travel or may not feel comfortable traveling and so we will certainly even if they do have an in person conference we'll certainly have many options for remote participation to make sure that anybody in the community who wants to participate, will be able to the second announcement, related to that one is that, given that this is sort of a shift and planning and everybody lives with them sort of turned upside down over and over in the past few months, we are going to extend the deadline one more time. The deadline now for submission to the conference will be July one. Please note that this will be a hard deadline. We are, we are, we are compressing our review and publication timeline as much as we can reasonably get away with filming. Someone contact and so we want to make sure we have plenty of time, then all the papers can get well reviewed and that the process goes well so we want to be able to extend the deadline any further than that so this will be, this will be a final deadline on July one. Again, all this will get sent out send an email tomorrow. And of course, you're welcome to contact us at any point if you have any questions, and this won't affect any of the actual structure of the conference or offering the conference all that will remain will remain the same. Thanks Simon.

Simon Buckingham Shum
Great. Thanks Andrew.

Okay, so, just the way we're going to run these is general format for these webinars, we'll have about 30 minutes of presentations or demos whatever they the speakers have got lined up, and then we'll throw it open for comments.

Now you can share your thoughts anytime you want through the chat, just by posting to everyone there.

You can also send questions in and they'll be picked up in the chat.

We'll keep you mics muted until it comes to the q&a and then we'll ask you to put your hand up, that's not, not that hand because it can be hard to keep track of that that's using the virtual hand. If you click on the participants button down in the bottom there of the toolbar, you'll see that opens up, and under the More button, you should be able to see the blue hand. That's where you put your hand up. And that will pop you into the queue, and we'll we'll pick that up.

Okay, we'll also be picking out any questions that come up in the chat and I'm putting those into a dock where the speakers can jump on those questions if they if they want to pick those up there. Okay, well look, that's pretty much all we need to say in terms of housekeeping, a heads up that in two weeks time, we've got Mike Phillips on the 15th of June, from Monash University down under here with me. But today, we've got from hungry Sylvie giorgo from Semmelweis University and she's an assistant professor there. And we've got gj Peters who is assistant professor at the European University of the Netherlands. And they are going to be giving us an insight into visualizing patient decision making processes. Regarding the choice of therapy with epistatic network analysis. A worked example of manual coding and segmentation gj if you want to put your screen up, just so we can see that very warm welcome to you both. And thank you for kicking off this inaugural webinar series, over to you guys.

G-J Peters
Thank you very much for having us. I'll start briefly with showing the background the underlying system, did the work for example but actually the blind.

Unknown 6:53
So I'll have a brief story about the kitchen rock standard that we use, and then Sylvia will pick up and show the actual mechanism. We decided to start actually with the beginning as one does. And this began about two years ago at one of the best conference dinners, ever. It was at the European health psychology society in Goma. And it turns out that the Copeland Center, which is a very beautiful building issue here, but it's logistically exciting companies were confused as to the date of the conference. So they actually planned everything for the Friday evening, and we were there with like 600 people on Thursday. So everybody does socializing, they were smart enough to open the bar. So that was very nice and everybody can talk to each other and that's actually when Sylvia and I met and over the rest of the conference in going. We had some more discussions about epistemic network analysis, having some typical jigs from bullet. And we kind of mentioned immunity because tilapia taught me about these beautiful network crops that I, I must admit to my embarrassment hadn't heard of in front of them.

Unknown 7:58
And I explained about a paper. I'd written called pragmatic nihilism where we explained the psychological constructs don't exist in debate most people seem to assume better. And we also use networks to illustrate this, so we thought like well, this is like.

Unknown 8:12

Usually, was the rich serendipitous these two techniques seem to be made for each other. And so we kept talking later on we found out that actually that's, we actually didn't get it yet, and actually they don't fit together so well. But something beautiful did kind of grow out of this, because Silvia taught me, that's the way the data needs to be presented to the in a tool is in a spreadsheet that shows basically wants and zeros, but shows where different codes occur in the sources that have been coded. And she explained that was actually a lot of work she was actually going to complain, so much work to type all this in. And I was like, are you serious are you like furiously typing in all these codes from your transcripts, into a spreadsheet, there has to be a better way. It turned out that there wasn't actually a better way so that's actually when we started building this better right, which is what became the rock. I have to tell a bit about my background, because that helps frame by the rock was such a natural development for us as Simon explained, I'm a psychologist. Maybe he didn't he said I'm a unit assist perfect but I am psychologist, and I'm trained in behavior change, and in behavior change. It's very important before you develop any campaign or intervention to actually understand your target audience, which means that you have to talk to them and qualitative research, but we also have to do qualitative research, where we use surveys to verify what to find out. And there's a specific approach that I happen to have been educated in called and finishing, where it was kind of natural. So for my PhD research that was about accessory use and why people do or don't use ecstasy, or why they do or don't drink enough water while they use ecstasy, but it's a drug that we have plenty of evidence. I actually combine these two methods and for me it was kind of natural because you could see how interviewing people as very specific uses, but at the same time you might sometimes want to apply and also the different methods. But more and more I found out that there's kind of like a feud between those two approaches for some reason. in psychology, a lot of the quantitative, researchers are humans by the qualitative researchers and see if they can't really grasp the richness and complexity of reality because they just forget numbers. And conversely the qualitative researchers are viewed as a quantitative researchers, kind of a shift they just talk and it's blah blah, it's something you can't actually review and for some reason these people tend to be kind of denigrating towards each other fields, but there are also very few people who are actually able to use both techniques. So this feud this these increments should incommensurable differences, kind of make it hard for people to combine those two methods. in psychology, as people. It feels like they know we are having something of the crisis and we are finding out that a lot of the findings mean to progress with actually does replicate. Not reproducible, and this is not unique to psychology, there are a lot of fields that are actually the literature shows that more and more frequently. The hypotheses that researchers have just gets confirmed. There's a person john eo natus, or however you pronounce that quite a very impactful paper exactly about this. Ironically, during the discovered crisis. He also co author of the paper ready actually didn't publish the data, any of those scripts. While these, these developments. While we find out basically, that our research doesn't produce one of the big solutions that has been proposed is to be more transparent about exactly what we do. That's why you have in the US, the Center for Open Science who are very much pushing for this in basically all fields of anti slanted towards the social sciences and quantitative research, as a kind of edge here in quantitative research you have datasets, you analyze this data set with some kind of statistical package and out you get results, and you write this up in paper, and that's it and whatever happened during the analyses always used to be a black box. But now, in this open science movement, more and more people start pushing for making very explicit what actually happens in what used to be like books by publishing your data. Obviously your analysis scripts, and for people who do qualitative research, this is a bit easier because they already work with analysis scripts that are applied to data to obtain the results. So basically they just publish these analysis scripts, and you have full transparency for qualitative research. This is a bit harder. Qualitative research original so with data qualitative data, often transcripts for example, or jet logs. These are analyzed at some kind of program and how to get your codes to your coding structure, and you get a description of these usually flavor potential chords. And again, what actually happens in between is kind of a black box. The Rock, kind of aims to facilitate opening dislike wash and idea, the way we try to do this is by

allowing people to adopt a workflow. It's a bit more similar to what people do in quantitative research. So in that sense, it's already kind of comparable in how DNA itself combines the strings of qualitative and quantitative research.

Unknown 5:02
So, there are these two things it's standard on the one hand, the standards for how to encode codes in qualitative data sets. And it's an art package to work with those data sets. I'll start by explaining a bit about the standard first. It defines what sources are some things that you actually go to things that you label where you do analysis. It defines what utterances are but our smallest decodable. And these expose us. You can define section breaks, and because, of course, to label specific points of the data. You can also specify deducted groceries if you already in advance, know the country that you will be using, because your data, you can just specify the entire country, and find it and you can specify cases for example, participants, and attributes they have such as their age or their gender. The way this looks if you take one of these very informative sources as an example, different definition of an utterance is that they are basically separated by line breaks. So that's what you actually can't see here, but put them there anyway, a line break is actually in a file, just a character are usually represented as two characters. So that's the definition in the rock standard of a library. It's convenient because it means that if as a human, you read one of those sources. Every author is every smallest codable unit is actually on his own mind and other parts of standard is that these utterances have identifiers that are put at the top, at the front of their utterance. And these are unique, and they allow combining different sources covered by for example different people, and then combining merging those codes into one. The codes are very simply defined as anything between two square brackets. And you can also indicate hierarchy, by using the larger den time. And these two codes, would be processed

Unknown 7:00
into Discogs tree, for example.

Unknown 7:05
And finally, here we have the section breaks, which also have like a standard they can be defined for example like this and they break the sources up into different sections, which can then be analyzed separately for example as sentence in the unit analysis tool. As I indicated, you can also specify cases, for example, individuals, these are two individuals from the study Sylvie will be showing. And this shows how their age and their education and their sex was specified. And you could specify deducted from trees, which is basically the whole country. So here you have some parents, which has, in this case, three child codes specified in two different fragments, and those are parsed then, and combined into one stream. So that's the standard. We also developed an our package that can read files that are specified using this template. And then if you use our package, you can get, for example, huge cutting trees, I guess one which is actually the coding three for the project to view and we'll be explaining. I see it doesn't show their phones for some reason, but I can assure you that there's actually text in these boxes, representing the codes that are applied. And you can also use this to produce lots of output like for example this visual co occurrence matrix where you can see for example that cramps and dizziness and distinction, coworkers, relatively frequently as symptoms, as reported by these participants. And what I think is one of the coolest things about the ROC is that it actually allows people to do the activities that were normally done using graphical user interfaces, using commands. So if you would merge codes or splits codes or recon fragments. You can now do this using commands specifying what exactly you would like to be called, which also allows you to add comments. And that means, other people can actually view your entire analysis journey and see why your matrix choices. And then at the end, you'll get this nice comma separated value file, which can then be imported into tools like for example DNA metrics. So this is kind of the underlying standard and our package to be defense might seem a little bit hystrix right now, but that will soon

change because Silvia will actually go into the work example, which means we have to switch to screen sharing, so I'll stop modehere.

Szilvia Zörgő
I will hopefully be sharing my screen in a second. Let me know when you. Okay, good. Okay, so I get to tell you why we wanted those spreadsheets in the first place, we were interested in how people make decisions regarding their choice of therapy, after they've been diagnosed with an illness. And what I'd like to do is to tell you a little bit about each step in our process from data collection through encoding and segmentation down to our qualitative data table and finally our networks. So we were interested as I mentioned in how people make decisions regarding the type of therapy that they want to use. Do they want to use biomedicine that is conventional medicine or Western medicine. Do they want to use non conventional medicine, also called complementary and alternative medicine or cam. These non conventional medical modalities can be used instead of biomedicine, in an alternative way, but they can also be used in a complementary way so besides biomedicine as is, as an augmenting therapy, actually can is more and more popular that can use is on the rise in western countries. And it does connote a very serious problem in doctor patient communication and the doctor patient relationship, because from the doctor's point of view, many times what happens when they talk to a patient who is using cam or considering using these non conventional modalities, is that the patient is sick, or the doctor is suggesting a type of biomedical intervention and in his or her view, the patient is not adhering to this intervention they're not complying with the doctor's recommendations, but from the patient's point of view it's actually very different they have preferences they have values they have their own ideas about what causes their ailments, and they will want to comply with that they want to be congruent with those ideas. So this might lead to a lot of problems in doctor patient communication. So the topic itself actually represents a topic that's clinically relevant. So we wanted to include patients into our study based on three different categories, we wanted patients who use biomedicine only so Western medicine only, But we wanted patients who use non conventional modalities as well. We wanted to look at these four diagnosis groups. Of course we want to extend our study later on but we wanted to limit diagnoses in this form. And we also wanted males and females in our study our data collection began in 2019, and we're using semi structured interviews to collect data, each interview addresses the following three topics at the stem ology so where does the patient get their information from and how do they know that that is that sorts of information is trustworthy ontology so what does the patient think causes their illness and illness in general, and behavior, what kinds of therapies have they used throughout their patient journey. We also collected what we call attributes for each patient. This includes metadata about the interview itself socio demographic characteristics clinical variables and a detailed account of choice of therapy throughout the patient journey. We also conducted a mini survey at the end of each interview I've collected even more group specific variables. Our coding was mainly deducted based on the three areas of the interview that I mentioned earlier, these three areas yielded a total of 57 low level codes, and each area was constituted a separate code tree that was coded or used by a different researcher. So we have three different researchers working with three different code trees and going through the whole narrative purpose. As such,

Unknown 14:06
our code book. This is a segment of our codebook looks like this we have the main or the main code and the mid level code, but also we have of course the low level codes and definition and description for those. And as gj mentioned, our codes, there are in a very specific format with the brackets, the hierarchy and the low level codes represented. And we also had inductive coding in our project because we realize that a patient won't always be talking about the diagnosis that we included them into the study when they might be talking about other diagnoses other illnesses that they're experiencing now, or have experienced earlier. So we decided that this was so important

relative to our research question and other codes that we should go through the whole narrative corpus and inductive Unicode all the illnesses that patients are referring to. Next we had to segment, our texts discourse segmentation is dividing up a narrative into meaningful parts. Of course you can say that on there it is sir most narratives are made up of words, but words in themselves are not that meaningful we need some context around those words to be able to understand what they mean. So in, in quantitative ethnography the smallest unit of segmentation is called an utterance. In our case, that was one sentence and coding occurred on this level of utterances, but the CO occurrence of codes, occurs on a higher level of segmentation called the stanza. This is a set of utterances, usually in QE it's defined as recent temporal context. And if you look to the right on this diagram, you'll see that this stanza, for example will give you a very different set of CO occurrences than this stanza. So it actually makes a very big difference. How you segment your text

Unknown 16:16
with semi structured interviews, when we looked at the raw data and thought about segmentation we thought well this is challenging because if an interviewer asks a new question or response to something that an interview he said, it doesn't mean that they have changed topics. So topics may last over several turns of time, and only then go into a new meaningful segment to make things even more complicated you have a block of narrative from the interviewee where they change topic topics many times. So we thought of a few different ways that we could define it in zone. One of our first ideas was less just segment the semi structured interviews based on question or response, we can have a question the response maybe some follow up questions and follow up responses for that. So this is a delimiter based segmentation, you're basically symbolically just drawing lines wherever you think the question and response segment ended and a new one begins. But because of our specific interview and because of our research topic. This didn't seem viable because all of our interview questions and all of those responses are very much intertwined so it's hard to separate, we don't have clear cut questions and clear cut answers. In our case, so we actually didn't use this type of segmentation. What we didn't use was another delimiter based segmentation, based upon the definition that I gave earlier for stanza which is recent temporal context that is topic. We had to separate researchers, doing segmentation manually on the entire narrative corpus. You see the actual data in front of you right now. One of the researchers says segmentation is illustrated in green, and the other ones is illustrated in this pinkish orange color and then overlaid on the green. And if you look at it closely you'll see that very rarely do the two researchers agree on where one stanza ends and another one begins. So, this led us to believe that this version, this definition of stands at least in our case was a little bit too subjective, or arbitrary to, to have just on its own. So we thought on and we said why don't we just use a whole interview as a stanza. Well if you do that you end up with a whole lot of CO occurrences because everything's going to co occur with each other within the interview. So in the end you get a very dense network and you get a lot of connections that might not make sense because those connections might not be meaningful. So this source base type of segmentation, could be useful for some sets of codes sometimes, but not always of course and not always in our case either. The last type of segmentation we thought of was let's use a governing code again you see before you real data from an interview. This is a narrative that's divided up, based on when the patient is talking about which of their illnesses. They have three main illnesses that they're talking about represented with the color of each. And when you look at the narrative, it actually meant itself quite naturally to this kind of segmentation, where, when the patient is talking about one illness is one color and and to illustrate, and when they're talking about all three. We can also go out of

Unknown 20:07
their segment to them important.

Unknown 20:09

So these were the ideas we had for stanza concerning semi structured interviews delimiter based source base and governing code base segmentation. Our process of coding and segmentation began with dividing up our narratives into sentences, the sentence received a line. Each line received a unique utterance identifier and codes at the end of that line and delimiters in between those lines, in order to facilitate this work, we created something we're calling Iraq or interface for wrong. It's a browser based program you basically go to this website you upload the source that you want to code, you upload your codes and your session breaks which appear on the pain and right and you basically just drag and drop those codes in such embraced wherever you want them to be. You could also add codes and delimiters as you go so you can work inductively, and then basically just download that to your computer when you're done very GDPR compliant.

Unknown 21:16
So just to give you an idea of what goes into our qualitative data table, we have three different researchers working deductively with three different countries. We have another fourth researcher, working inductively with illnesses. We had two separate researchers working with the same definition of stanza that is recent in portal content. And we had another version of segmentation based on government posts. Of course we also had all the attributes for all the patients, and all of this information collapses on to the unique identifiers. So just to recap, in a qualitative data table you want your attributes, represented for each source of data, you also want your actual text and the segmentation for that tense. You want your detective or end or inductive coding represented in binary form. And because we had so many of these, we kindly asked rock to do with that for us and aggregate all this information. So this is just to give you an idea this is what it looks like when rock creates a qualitative data table for you. And right now we have about 12,000 rows so thank you very much. Now, going on to our networks. The first thing we need to do is decide what what we want to see a network, or basically this is deciding on what you think a unit should be na gives you this wonderful opportunity to take advantage of conditional exchangeability. That means that you're creating post hoc groupings or sub groupings within your population or within your data itself, depending on the research question that you want answered and depending on the kind of exploratory work that you want to do. In our case, we had two main groups, users of biomedicine and users of non conventional medicine can can be further divided up into Complementary and Alternative Medicine that's already three groups, but we can further divide these based on the diagnosis groups. And because we have such a finely grained account of diagnosis D one which is diabetes can be further divided up into type one type two diabetes or insulin resistance. We can go even further and look at patients within the diabetes group divided up based on sex, but we could just divide the whole sample based on sex. I also you can go even further in your groupings and choose any attribute, or variable that you selected in the data collection phase and at the end. Of course you see the actual individuals or the sources of data whatever you're using to, to create the network. So just to give you a specific example, we're assuming that therapy choices connected to the type of illness that you're suffering from, but also it may be connected to the patient's sex. So we kindly ask CNA to divide our data based on the choice of therapy. So hearing the projections based on the right, you can see the mean networks or the biomedical group, and the cam group. You can also see the confidence intervals and the dotted lines around them. You can see the diagnosis groups represented as colored dots in the projection space. And right now we're working with etiology codes that means we ask the patient, what do you think causes your illness, the patient may have said, Oh well, genetic factors cause my illness or nutritional things for psychosocial things cause my audience. So these are the codes that are represented right now. In the projection space and the location of the mean network or the diagnosis group network in the projection space right now will tell you a lot about the relationship with that code, and the structure of the network itself. But we could say, let's forget about diagnosis and forget about therapy choice. Let's just divide the sample based on sex and look at the male and female networks, which by the way is also significantly different just by the therapy choice mean.

Unknown 25:58
So we can compare a group mean and a group mean, for example, here you see biomedical biomedicine users and cam users, and we can see that can users emphasize something that's called vitalism in etiology vitalism means belief in universal energy or spiritual energy that courses through the human body and allows illness to happen if the flow of his energy is impeded, we can see that with users of biomedicine, this type of etiology or cause of illness is absent almost it's not connected to any. So this is the main difference but also we see that psychosocial factors and ecological and environmental factors are under emphasized in the cam group compared to the biomedical group. We can compare males and females and looking at those two networks, the main networks we can see that actually this belief in vitalism energy. This is very much a female thing it's not just a campaign. So females are representing this connection to to other codes within this work. And we can see that males emphasize the connection between ecological factors and nutritional factors in the causation. We could go one step further and compare biomedical females to cancer females and be reaffirmed that indeed, and females are the ones who are emphasizing this connection between vitalism and other geological factors. We can compare an individual to their group mean for example, there we see the cam group mean, and someone in the cam group suffering from a digestive illness, a female in her 20s, and we can see that this particular female on the right. She is de emphasizing this connection to vitalism, while she's emphasizing a connection between psychosocial factors and nutritional factors, which for a digestive illness actually makes sense. Think about it. And lastly, we can compare two individuals together. We see here two females in their 50s and 60s with the musculoskeletal illness the same illness actually one of them belongs to the biomedical group, the other one to the cam group. And we can see again reaffirmed that the can female does not make a connection to the biomedical female does not make a connection to vitalism, but also we can see that it can female is not making connections between ecological and nutritional factors and. So, this answered some of our questions with the assumption that therapy choices connected to diagnosis and steps. But if we had other research questions like is it connected to education, or age, for example, then we could create networks based on that and explore these hypotheses. And of course this was only just half of one third of our codes. So, actually I think we'll be analyzing this data for another 30 years. I just want to thank you for your attention and, and also to say, a thank you to these wonderful research assistants, two of whom I think are here today. And if they are Can you just turn on your camera and wave to everyone and and Anna, if you can, I don't know. Yeah. Okay, so some people will see you.

Unknown 29:40
Thank you for for your attention.

Simon Buckingham Shum
Fantastic. Thanks so much. Let's have some virtual applause.

Unknown 29:50
You can wave your hands you can clap.

Unknown 29:54
Hopefully GJ and Sophie that was, that was, you know, the timing perfectly, and that was actually an outstanding example I think of how to present you know the the research questions and and the way that you were the the choice of tools into that in a very engaging and clear way so thank you for for showing us how to do that so well i mean that the topic itself is is fascinating and it's just great to see how the research questions you bring to this field so they have been enabled by by technologies so a methodology such as this. Okay folks, if he wants to stick your virtual hand up to asks to make a comment or to ask a question to JJ and Sylvie then, then please do open that participant panel and

click on your, your more button to raise your hand. And we'll hand it over to you or stick a question into the chat.

Unknown 31:04
Tony my dog.

Unknown 31:15
Silvia gj, it looks like there's a comment from David, I don't know if you guys want to pick it up but he says he agrees with what Simon was saying and he's loving the way that he's through both the tool you're using and developing and the process of decision making, as you operationalize your ideas with an N on the data that's something I also would echo something I love about the work that you guys are doing but do you want to speak to that at all.

Unknown 31:42
And by you. You mean

Unknown 31:46
both both, both of you. Either we want to pick that up. Yeah, I just, I was just I was just trying to say that I, I really appreciate seeing not just, you know, we tend to present. What sometimes called reconstructed logic, that is you do a study, and then the presentation walks through the study as if everything had been done logically and, you know, there was a hypothesis and then you did these steps which fall naturally and then you did this, and then here are the results, the reconstructed logic is sorry the best contrast with the logic in use, which is what we actually all do in the messy world of research and the things that we tried and why they why we tried them and what the false and false leads work. And this was a really nice combination of presenting a very coherent story, but also unpacking for everybody, the some of the decision points along the way and the things you tried and how you were thinking about them and what led you to make the choices that you made. And that's a, being able to combine those two, you can easily err on the side of just tat time that every full step you ever made and that gets really boring. Or you can just tell the three queens story this is a nice combination of the two. It really gives us insight into how you were thinking about the problem as you were as it was unfolding for you, dealing with this data.

Unknown 33:12
Thank you. Thank you so much for those comments and actually, um, I think we're both happy that that came across, because we're, we're both very much, passionate about methodology itself. So, we use this project, I think the project itself has value, and you know, clinical relevance, as I mentioned, and those results will actually be very important to disseminate to doctors primarily. But, but also we sort of use this project as a way to address some methodological issues that we thought were extremely important when when using DNA. And, and we sort of used this project as as a guinea pig. So we collected a lot more information and we did a lot more coding and a lot more segmentation just so that at the end we can see what's going to make that final sort of set of results. The most valid. Thank you.

Unknown 34:17
Thank you for the comments.

Unknown 34:20
Yeah, this was very nice. It also has some other to add that.

Unknown 34:26

It is actually exactly what you just said, but there's like this norm that you have to publish everything when you publish, which prevents us from learning so much. And as becomes clearer and clearer that knowledge is actually helping us to improve the quality of science. So that's actually also something we both really try to be mindful of if we actually tell people, when we find out we did something wrong. So hopefully more people will feel empowered to be explicit about when they do things wrong.

Unknown 34:58
Okay,

Unknown 34:59
looks like, Oh, go ahead and sign.

Unknown 35:01
Okay yeah I was just going to pick up on another question that I've been asked by Mamta Shah, who said, you know, you talk about the, the onboarding the PD and professional development or onboarding that you needed to build the capacity for your research team to do this, you know, I'll be working with a small team who are not exposed to the QE world Can you can you talk about what does it mean to sort of tool up to do this kind of stuff.

Unknown 35:31
I don't think it's that different as as doing a qualitative research collaboratively. Normally, you have very similar steps where up. So depending on where you want to start this process right now but you discuss the research question you discuss the methods that you want to use. You kind of weigh those things as, as you're going on. And, and just more specifically geared towards CNA or QE. I think we, we had this very rigorous process of deciding on coding and making sure that we were all understanding the same thing when we talked about all of these codes that it's actually a very large number of codes so that process was very lengthy compared to a lot of other stages of the research project. But I think that once you have your codebook, it's, it's fairly the same process where you enter the realm of coding and and segmentation and depending on whether you want to do that manually or in an automated way you would need different processes for that. So we did everything manually. And that, because that process wasn't fleshed out before us, I think, we needed to sort of come up with new ideas as we went along, which TJ was very much a part of. So, if you want to chime in on that process you can.

Unknown 37:17
I think that says

Unknown 37:19
above what you just said we might not be the best people to explain about the onboarding because we would like also building the boat, while we were doing this. So, this process will not necessarily being extremely representative for how things will move along. So I think if anybody would want to use similar approaches, probably the most efficiently, efficient, definitely from your point of view would just be to contact it to us, and then see what your situation is and how that would actually be best approach from your sensors.

Unknown 37:51
Okay.

Unknown 37:53

Another question How did you set the window stands or on na to reflect the stance, you use on your data from Masia mores.

Unknown 38:05
That is an awesome question. I think that these are the questions that that we need to be asking, and very explicitly and those answers that we get from from various people, they need to be recorded somehow How did you make the decision to to use this or that type of segmentation and of course the stanza window is one of those decisions. Right now, we're looking at these theology codes, and it actually makes sense to use old conversation to set an interview as one stanza basically when you're looking at etiology codes. Another version that we had was using the governing the governing code segmentation, because in in from one point of view, it makes sense that someone has a coherent explanatory model for how it elements works, but from another point of view it's actually very important to to align those theories of causation, with the actual disease that they're talking about. So these were two different types of segmentation. And so, more specifically answering you when we did the whole conversation that so using an old interview as one stands up we've set it to infinite window. Infinite stanza. And when we we did the governing code one, then the code itself, the diagnosis.

Unknown 39:39
The diagnosis group constituted the stanza. That makes sense.

Unknown 39:48
Okay, thank you. Yuanru has got a hand up. So, Yuanru, go for it.

Unknown 39:55
Yeah. Thank you for the presentation, besides the logic of the research is very clear. I also want to say that this is the end of the most clear and pleasant to follow presentations. I've heard recently, and like the way you realize we're currently doing instant results, it's very helpful for the audience. And my question is about thinking about those meaningful challenges you have been starting the stanza window. Is there anything you will do differently to design the interview sessions in the future to probably make it mean that it's those challenges I understand those challenges are like natural and it's avoidable but I'm curious about your thoughts on that.

Unknown
That's a really good question. Um, I was thinking that I would want to try a project where I don't know if this specific type of methodology exists, yet, or this specific interviewing method. But I would try to have a semi structured interview where you, for example, if I'm interested in what someone thinks causes their illness, then I would ask them that, primarily, listen to their response have few follow ups to that, and then ask them again the same exact question. And of course I would warn them beforehand that I'm not having a stroke or, I didn't, you know, I mean I don't have memory problems, but this is a technique. Right. And every time I asked that question again and again and again, I would I would count that as a meaningful segment in the interview. I think that's something to explore.

Unknown
But it wouldn't allow for complex issues to be raised in the interview, it would be kind of drilling down to one specific thing that you want to know.

Unknown

Okay, thank you. I'm sure that each of these questions could lead to a good, a good 20 minute half hour discussion, but we're just gonna keep going and just so we get a spread out of them left Stein has a question.

Unknown
Yeah, thank you thank you both very much.

Unknown
echo what others said about how interesting the presentation was and how clear it was to follow.

Unknown
I'm curious about why you na. And if you consider it other ways of making sense of all this data, I mean one thing that I'm struck by is just the number of code.

Unknown
Obviously you, you can't do justice to at least in one model within a network, it will be uncomfortable. So did you think about other ways, why did you choose to present it through DNA.

Unknown
Um, yes, great question, and.

Unknown
Okay, so my, my background is in apology. So, this is a very different way of looking at my data.

Unknown
But because I'm at a medical school, I found it very challenging to be able to communicate qualitative findings in that environment. And that has a lot of reasons that we might not have time to get into right now. But, but, I remember during my first year there doing a PhD. I was at a conference, and it was about, I was listening to a talk on epidemiology, and the first time I'd seen like a beautifully constructed network was with this topic. And I looked at this network which obviously wasn't DNA was just a well done network. And I looked at it I said, Oh my goodness, that's like a snapshot of human cognition, right there. And of course we have millions of these per second and all of these interactions are really hard to understand and grasp and what but but that's, that's what it looks like that's what human cognition looks like. And so I was actually searching for a way to visually represent my data in that manner. And so, very ironically or a no I the the method that I encountered DNA was doing a Google search, or concepts network and social science, and I in the first hit was DNA. So, um, so, but yes as an anthropologist I would speak very differently about my data and treat it very differently but I think that this works in the environment that I'm in right now.

Unknown
I'd like to pass to Eric Hamilton, who's got a question.

Unknown
I think the answer the question was answered on the, on segmentation. But I'll take the chance to or the opportunity to say was a great presentation, very helpful.

Unknown
Okay. Great. Okay. Thanks, sir. Okay. So look, we're in the sort of final five minutes or so now but I'd be really interested to see.

Unknown

Sylvia and JJ. What kind of reception is this kind of work getting in the, in the communities that you're engaged in I guess JJ you, you already live in a in a in a sort of data intensive quanti kind of world, but Sylvie You said you're coming from an anthropology background, you know, have you have you had the chance to present this to the kinds of communities you normally hang out with and how does it How does it go down, because, as we'll start moving into this kind of analysis, we have to understand, you know, helps to understand how we can position this kind of work in relation to quite qualitative audiences.

Unknown
TJ, did you want to say a few words before.

Unknown
Not really. I mean, my first, you know be at a talk show much my first exposure to how this would be received in like my community boots have been at the HPS in Bratislava, which has been proposed on for a year, so I can't really say anything about it.

Unknown
We will report back in a year, about that, um, as far as from my heart. It's amazing how DNA can address can cater to a constructivist worldview and a positivist worldview at the same time. So you can have people who think that we all construct our social reality and we all have our individual realities and truths. And we sort of share an understanding of what this construct of reality is, people thinking like that usually qualitative researchers, they find this intriguing and also people in the positivist worldview who think there's one truth one reality we can measure that reality and and then we can even control them and manipulate that reality, to some extent, even positivist. People are are you know impressed by by me, so it caters to both of these sensitivities, for John's abilities worldviews and, and I think that's what's really special about me that it appeals to both of these approaches and ways of of looking at data and answering research questions.

Unknown
That's a, that's a nice way of putting it. It appeals to both of the different sort of ontologies and worldviews.

Unknown
Okay folks, we're gonna have to stop there. When we invited JJ and Sylvia to kick this offer was partly because we, we'd seen them in action at IC qe 90 and we knew how engaging they were and they really given us a great kick this webinar series.

Unknown
Before we go, though.

Unknown
I just wanted to give Silvia the chance to sort of advertise something that she she she's developing, I think she wants to make you aware of so I'll just hand that over to you. So thank you I won't take her on. I just wanted to bring your attention to the fact that there are wonderful.

Unknown
Research interns, working on these. I don't know if you can see my screen, these wonderful people are working together to, sort of, Tally all the methodological decisions that we as an emerging community as a nascent community are making in our publications and in our talks. And I wanted to reach out to, to you and to the people who've already published a work, in theory, or using DNA and ask you to fill out a form about your work and help us sort of get gather data on what we've done so

far as a community, so we can have this mirror for ourselves, to know what kinds of decisions we've made what mistakes we've made what what's worked, you know, what are some best practices, these are sort of the questions that we're interested in. So, I will. Once I find the chat and the link, I will put that link into the chat and hope that if you do have a publication out there in QED, then perhaps you can take the time to fill out that form and help us construct a precise mirror about what we're doing, like Sylvia and I really liked the whole Open Science orientation of this work. Yeah reproducible science open and transparency about how we go about our business. So yeah, it's a great Cool. All right. Let's have a final round of applause virtually with a deathly silence for JJ is so big, fantastic says in the chat. People are waiting clapping.

Unknown
Thank you again in two weeks time folks come back, same time, same place, not the same time it'll be an hour later. Next time on the 15th of June, or 16th with Mike fields from Monash University.

Unknown
But until then, thanks and goodbye.