Do your own research

AI-assisted analysis of player discussions

Aalto University's Game Analysis Course 2024

Prof. Perttu Hämäläinen

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- A quick intro to qualitative text analysis
- AI-assisted text analysis
- Your research task

Motivation

- During this course, you've learned to understand players via various theories and research findings
  - Player behavior as utility maximization
  - Intrinsic motivation
  - Emotion
- Sometimes you need to do your own research
  - What is important to understand about your specific game or genre?
  - Play games
  - Talk with other players and designers
  - Read online discussions
  - …

Motivation

This week's goal: Try out an AI-assisted research pipeline

- Scrape Reddit posts about games

- Identify patterns

- Prepare a report of key insights

The open source tools we use are part of Joel Oksanen's doctoral research. We will ask your permission to use your results to improve the tools.

Qualitative analysis methods

What kind of questions can qualitative research answer?

What, why, how –questions. E.g., What are reasons for people experiencing games as art? How do they describe such experiences? What makes games memorable?

Not suitable for "Does X do Y?" questions: Does A lead to higher retention than B? Does X increase monetization?

Data coding

Annotating text/images/videos in a way relevant to the research question, e.g., with labels summarizing the salient information.

Central to all qualitative analysis approaches.

I was overlooking a beautiful valley surrounded by snow-capped mountains. There was a massive lake in the middle. Everything seemed so peaceful and serene it was like being inside a painting. I felt truly awed, not only at the scenery but at the work the developers put in to make it look so beautiful.

While playing The Legend of Zelda: BOTW it was clear that I was experiencing. Elements such as music, art style, ambient sound, level design, and the free roaming nature of the game helped me feel guided but also free to do as I pleased.

When you take in consideration the music, the graphic design, the writing, and of course the gameplay. Its in games like this when you are aware of be playing an artwork, rather than just another game.

A **Author** ··· ✏ 👍

Peace; serenity; being inside a painting; awe

Reply

A **Author** ··· ✏ 👍

guided but free

Reply

Forms of coding

- Inductive: Codes are determined as coding progresses

- Deductive: A fixed pre-determined codebook

- Semantic: Focus on meanings apparent in the data

- Latent: Hidden meanings are uncovered and interpreted

Thematic analysis (TA)

A common qualitative analysis method

Indentifying, analyzing, and interpreting patterns of meaning, i.e., themes.

Typical data: Interview transcripts & online discussions

THEMATIC ANALYSIS

Virginia Braun and Victoria Clarke

Until recently, thematic analysis (TA) was a widely used yet poorly defined method of qualitative data analysis. The few texts (Boyatzis, 1998; Patton, 2002), chapters (Hayes, 1997), and articles (Aronson, 1994; Attride-Stirling, 2001; Fereday & Muir-Cochrane, 2006; Tuckett, 2005) often came from outside psychology and were never widely taken up within the discipline. Instead, qualitative researchers tended to either use the method without any guiding reference or claim some mix of other approaches (e.g., grounded theory and discourse analysis [DA]) to rationalize what essentially was TA. Braun and Clarke (2006) developed TA (in relation to psychology) in a "systematic" and "sophisticated" way (Howitt & Cramer, 2008, p. 341). TA is rapidly becoming widely recognized as a unique and valuable method in its own right, alongside other more established qualitative approaches like grounded theory, narrative analysis, or DA.

TA is an accessible, flexible, and increasingly popular method of qualitative data analysis. Learning to do it provides the qualitative researcher with a foundation in the basic skills needed to engage with other approaches to qualitative data analysis. In this chapter, we first outline the basics of what TA is and explain why it is so useful. The main part of the chapter then demonstrates how to do thematic analysis, using a worked example with data from one of our own research projects—an interview-based study of lesbian, gay, bisexual, and transsexual (LGBT) students' experiences of university life. We conclude by discussing how to conduct thematic analysis well and how to avoid doing it poorly.

WHAT IS THEMATIC ANALYSIS?

TA is a method for systematically identifying, organizing, and offering insight into patterns of meaning (themes) across a data set. Through focusing on meaning *across* a data set, TA allows the researcher to see and make sense of collective or shared meanings and experiences. Identifying unique and idiosyncratic meanings and experiences found only within a single data item is not the focus of TA. This method, then, is a way of identifying what is common to the way a topic is talked or written about and of making sense of those commonalities.

What is common, however, is not necessarily in and of itself meaningful or important. The patterns of meaning that TA allows the researcher to identify need to be important in relation to the particular topic and research question being explored. Analysis produces the answer to a question, even if, as in some qualitative research, the specific question that is being answered only becomes apparent through the analysis. Numerous patterns could be identified across any data set—the purpose of analysis is to identify those relevant to answering *a particular* research question. For instance, in researching white-collar workers' experiences of sociality at work, a researcher might interview people about their work environment and start with questions about their typical workday. If most or all reported that they started work at around 9:00 a.m., this would be a pattern in the data, but it would not necessarily be a meaningful or important one. If many reported that they aimed to arrive at work earlier

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What is a theme?

Tool for organizing and reporting the research results.

Reporting:

- Theme descriptions

- Illustrative quotes

- Researcher's own reflections and interpretations.

4.1   Freedom

One of the defining themes of our analysis was the sense of freedom our participants experienced. This sense of freedom manifested on various levels, ranging from freedom from practical concerns and judgment, over freedom to present oneself in individual and different ways, to the freeing experience of dancing in VR. These experienced freedoms were partly facilitated by the felt safety of the environment, where VR afforded feeling safe from physical harm and allowed leaving the environment in case of discomfort. On the other hand, the freedom afforded by the virtual world also presented some dangers. Additionally, in some cases this sense of freedom was undermined by technical limitations.

Regardless, many participants explicitly voiced their appreciation for the liberating experience in VR, and the freedoms afforded by that environment also facilitated many of the experiences described in the other themes.

> "For me VRChat in particular is just this very liberating environment [...] You can just kind of be whatever you want to be. And being able to exist as someone or thing that feels right to be, and then just to be able to cut loose, as it were, on the dance floor is real nice." (P15)

Piitulainen, Roosa, Perttu Hämäläinen, and Elisa D. Mekler. "Vibing together: Dance experiences in social virtual reality."
https://dl.acm.org/doi/abs/10.1145/3491102.3501828

TA variants

Reflexive TA (RTA): The most subjective and interpretive, single researcher, inductive coding. Themes can go beyond content categories.

Coding reliability TA: Themes as content categories, deductive coding identifies material relevant to each category, multiple independent coders, quantitative metrics for determining coder agreement.

Codebook TA: Between reflexive and coding reliability TA

Reflecting on reflexive thematic analysis

Virginia Braun[a] and Victoria Clarke[b]

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ABSTRACT

Since initially writing on thematic analysis in 2006, the popularity of the method we outlined has exploded, the variety of TA approaches have expanded, and, not least, our thinking has developed and shifted. In this reflexive commentary, we look back at some of the unspoken assumptions that informed how we wrote our 2006 paper. We connect some of these un-identified assumptions, and developments in the method over the years, with some conceptual mismatches and confusions we see in published TA studies. In order to facilitate better TA practice, we reflect on how our thinking has evolved – and in some cases sedimented – since the publication of our 2006 paper, and clarify and revise some of the ways we phrased or conceptualised TA, and the elements of, and processes around, a method we now prefer to call *reflexive* TA.

https://www.tandfonline.com/doi/full/10.1080/2159676X.2019.1628806

Thematic analysis (TA), and specifically the approach we have developed (e.g. Braun and Clarke 2006, 2012, 2013), is a widely used method in qualitative sport and exercise research. When we first wrote about TA, we observed that the method was 'a poorly demarcated and rarely acknowledged, yet widely used qualitative analytic method' (Braun and Clarke 2006: 77) in psychology. This observation applies equally to the early use of TA in sport and exercise research, with common practices including both references to 'themes emerging' from qualitative data with little or no discussion of analytic philosophy and procedure, and the use of under- (or un-)theorised 'mashups' of, for example, content analysis and grounded theory techniques to identify themes in qualitative data (e.g. Bain, Wilson, and Chaikind Westoaks 1989; Scanlan, Stein & Ravizza 1989). More recently, TA is (mostly) demarcated and acknowledged as a distinct method in sport and exercise research, but limitations and confusions remain in how TA is implemented and understood. There are, of course, examples of good practice in TA in sport and exercise research (e.g. Hallett and Lamont 2015), alongside many examples of poor and confused practice. The latter include, as we explain further below: a) untheorised mashups of our approach[1] with grounded theory techniques, and/or use of coding reliability measures; b) treating TA as one approach; and c) confusing summaries of data domains or topics with fully realised themes (patterns of shared meaning underpinned by a central organising concept) (e.g. Evans, Adams, and Hall 2016; Hill et al. 2015).

It might be inferred that our concerns about how TA is being implemented in the field of sport and exercise research indicate we're succumbing to methodolatry (Chamberlain 2000) or proceduralism (King and Brooks 2017a), that we're treating the method like a baking recipe that must be followed precisely in order to ensure a successful outcome, that we're prioritising procedure over reflexivity, theoretical engagement and creative scholarship. We reflexively claim we are not. Our concern is not that there are mashups and other creative uses of TA per se – indeed, these are welcome, *if* they are done deliberately and thoughtfully, as expansion and refinement of methods is a sign of a vital field. But

6 phases of RTA

A worked example of Braun and Clarke's approach to reflexive thematic analysis

David Byrne[1] ID

https://link.springer.com/content/pdf/10.1007/s11135-021-01182-y.pdf

Abstract
Since the publication of their inaugural paper on the topic in 2006, Braun and Clarke's approach has arguably become one of the most thoroughly delineated methods of conducting thematic analysis (TA). However, confusion persists as to how to implement this specific approach to TA appropriately. The authors themselves have identified that many researchers who purport to adhere to this approach—and who reference their work as such—fail to adhere fully to the principles of 'reflexive thematic analysis' (RTA). Over the course of numerous publications, Braun and Clarke have elaborated significantly upon the constitution of RTA and attempted to clarify numerous misconceptions that they have found in the literature. This paper will offer a worked example of Braun and Clarke's contemporary approach to reflexive thematic analysis with the aim of helping to dispel some of the confusion regarding the position of RTA among the numerous existing typologies of TA. While the data used in the worked example has been garnered from health and wellbeing education research and was examined to ascertain educators' attitudes regarding such, the example offered of how to implement the RTA would be easily transferable to many other contexts and research topics.

Keywords Reflexive · Thematic analysis · Braun · Clarke · Qualitative

1 Introduction

Although the lineage of thematic analysis (TA) can be traced back as far as the early twentieth century (Joffe 2012), it has up until recently been a relatively poorly demarcated and poorly understood method of qualitative analysis. Much of the credit for the recent enlightenment and subsequent increase in interest in TA can arguably be afforded to Braun and Clarke's (2006) inaugural publication on the topic of thematic analysis in the field of psychology. These authors have since published several articles and book chapters, as well as their own book, all of which make considerable contributions to further delineating their approach to TA (see, for example, Braun and Clarke 2012, 2013, 2014, 2019, 2020; Braun et al. 2016; Terry et al. 2017). However, on numerous occasions Braun and

Phase 1: Familiarizing yourself with the data

Reading the data

Taking notes

Important even in
AI-assisted analysis

"Participants heavily emphasise active and practical measures as the most appropriate method to promote student wellbeing".

"Participants often speak of wellbeing in lay terms. It seems they are unaware of any kind of theoretical model of wellbeing. Further, participants do not seem to have intimate knowledge of relevant wellbeing policy or instructional documents".

"There appears to be a discrepancy in the availability of wellbeing-related continuous professional development (CPD). Teachers who deliver the wellbeing curriculum or who fill a pastoral care role (wellbeing educators) have fewer issues attending such CPD. Core curriculum subject teachers (non-wellbeing educators) often receive no such CPD. This may have implications for the whole school approach to wellbeing promotion".

"The core curriculum is prioritised over the wellbeing curriculum".

"Affective dispositions communicated by participants seem to be predominantly: enthusiasm in relation to the value of promoting student wellbeing; frustration at the perceived lack of available training and support, and; resent at the perceived lack of recognition of their historic efforts regarding the promotion of student wellbeing".

Box 1 Example of preliminary notes taken during phase one

Phase 2: Generating codes

Highlight relevant text, add codes (one or more code per highlight)

I think anything that you do in school that's on paper is difficult to relate to students [C1]. And, this is the great thing about the new junior-cycle, there's a lot more of the hands on approach in most academic subjects [C2]. I think, that needs to be brought into areas like SPHE[C3]. Theory is fine – I don't know if you want me to talk about the wellbeing indicators [interviewer gestures to continue]. I have them there on my wall, this is maybe my third year to have them on the wall [C4]. To be honest, I feel that that's just way too abstract! It means nothing to a 13 or 14 year old, absolutely nothing [C5]. So, that's what I mean by simplifying it, just to say, you know, we might do a topic and I'll say; "how does that make you feel?" Can you imagine – if you didn't feel connected, what would that be like. You know, trying to get them to relate to those [interviewee gestures towards the wellbeing indicators on the wall] [C6]. But to be quite honest, I don't use those indicators in the classroom. I don't use that vocabulary. I think it's way too vague [C7]. The ideas behind them are fantastic and if you had all of those you'd be feeling very well [C8], but it's…I just think it's too abstract [C9].

[C1] The wellbeing curriculum is not relatable for the students

[C2] A practical approach to learning is beneficial for students

[C3] Wellbeing promotion should be practical

[C4] The wellbeing guidelines lack clarity

[C5] The wellbeing guidelines are not relatable for students

[C6] The wellbeing guidelines can be made relatable for students through practical measures

[C7] The wellbeing indicators are not used to promote student wellbeing

[C8] Positivity regarding the wellbeing guidelines

[C9] The wellbeing guidelines lack clarity

Box 2 Extract of preliminary coding

Code examples

Exhibit 4.2
Six Codes With Illustrative Data Extracts (Direct Quotes)

Modifying speech, behavior, and practices to avoid heterosexism	Tensions in relating to straight men	Incident of (naming) homophobia/ heterosexism	Fear/anxiety about people's reactions to his sexuality	Managing the heterosexual assumption by minimal agreement	Monitoring/assessing people/the environment for the possibility of heterosexism
I'm not somebody that goes out looking for trouble . . . (David) so you don't want to necessarily go down that road, so you sort of make up some- not make up some story, but you only tell sort of half the truth (Andreas) I would feel fine going clubbing [to a straight club] with my boyfriend but I'd be very wary of making it obvious (John) if I'm out with my boyfriend and it's late at night and we're sort of walking home and we'll sort of holding hands and . . . if it's like mostly girls and stuff and that's okay but if a group of lads were coming like we would loosen up or go via like a different route (David) with other Asians as well . . . I wouldn't say probably I would just shut up (Asha)	I know if I go into a lecture hall and I'm like on my own without a group some of the lads are a little bit less inclined to sort of sit with you in a way . . . (David) that's the old thing that it's sort of easier in a way to be out with females than with sort of you know blokey blokes (Andreas) I did have quite a- an interesting conversation with one guy . . . at the end of the conversation . . . he goes. . . "you're an actual really nice guy aren't you? 'Cos I wasn't really over sure about you when we first started, 'cos you could tell you were gay as soon as you walked through the door" . . . my reaction was "get knotted" sort of thing and just walked off 'cos I thought you know that shouldn't be a issue (David)	This one guy drunk just came along and just started telling me to my face I was sick that there was something wrong with me, there was something wrong with us and we should [f**k] the hell out of there . . . (Asha) I have once seen a group of lads standing outside one of the [gay] bars like jeering and stuff . . . (John) There's this one person from work who's extremely religious, and I don't mention it [my sexuality] whatsoever, he did mention one story that er gay people were cursed by the god and turned into monkeys (Asha) I had a couple of incidents where all of sudden when you then say "I'm gay" then it's this (pause) you know erm wink wink nudge nudge thing sort of these jokes (Andreas)	I'd just hate to see what my dad would do (Asha) I was a little bit worried about how I was treated, I didn't want to go out and start helping them in shoe shops . . . (David) I do remember being a bit worried about who I'd end up living with because I opted for a a student house and that's five random people thrown with you (John) I was asked . . . "why did you come from another country to Bristol?" if you er go into this er spiel about "oh there was somebody involved" then you're close to "who was it then?" . . . you never know how people react (Andreas) if I came out there I probably would have been lad bait so I decided to keep it to myself . . . I had an idea of what kind of response I would get and so just sensible decision of just keeping my mouth shut (Asha)	I realize and notice that I sometimes try to erm not conceal it, that's not the right word, but erm let's say I'm in . . . seminar and somebody- a a man says to me "oh look at her" I'm not going "oh actually I'm gay" I'll just go "oh yeah" you know I won't fall into the other one and say "oh yeah she looks really brilliant . . ." (Andreas) I don't agree but I don't disagree, I kind of erm, I probably just say"yeah she-" What would I say? Probably something like "oh she looks okay" or "yeah she looks nice" but I wouldn't say "oh yeah like I wanna (laughs) I wanna do her" or something like that (John) I was asked "what are you doing then in Bristol?" . . . "was it a nice girl?" so you don't want to necessarily go down that road so you . . . only tell sort of half the truth (Andreas)	just how much I know them . . . there's a lot of people I wouldn't go into great detail with about what I get up to and stuff, whereas other people I would, yeah I suppose I like to feel reasonably safe when telling them stuff like that (John) erm I just remember him making some kind of comment to me on the bus to London about Earl's Court and gay art or something and er yeah, and I just I didn't think that he'd be the sort of person that'd be that bothered by things like that you know what I mean (John) you go to a party where you don't know anybody . . . and "oh let me introduce you to so and so" and then you sort of after a while you start this there's always testi- testing can I not can I tell that- but I mean what will happen if I tell will people then immediately say "oh sorry mate I need a drink" (Andreas)

https://sites.psych.ualberta.ca/IClab/wordpress/wp-content/uploads/2022/02/Braun12APAHandbook.pdf

Evolution of codes

Table 1 Excerpt of spreadsheet tracking code changes

#	Part	Data item	Iteration 3	Iteration 4
1	8H	Training? No. I wouldn't have done anything in that (the wellbeing curriculum)	Non-wellbeing educator received no wellbeing CPD	Insufficient training in wellbeing curriculum
2	1A	Our principal did some training, she went to a training thing at one stage and came back and kind of updated us	Insufficient training in wellbeing curriculum	Insufficient training in wellbeing curriculum
3	8H	There's no… they're not…there's no measure of whether or not it's working. I mean, we have exams in all the other subjects, so we have a way of measuring the progress of pupils in those subjects. But, there's no way of measuring whether or not all this wellbeing stuffs working	No assessment of students' wellbeing	Lack of clarity in assessing student wellbeing
4	10 J	There's no set criteria to tell if a student is "well", you know?	Lack of clarity in assessing student wellbeing	Lack of clarity in assessing student wellbeing
5	2B	But, for the rest of us, maybe it's not so much about the (wellbeing) curriculum. Maybe it's more about the day-to-day stuff. So, we don't need that level of training in delivering SPHE, but… we could do with some guidance on how to handle the day-to-day stuff	Training in attending to students' day-by-day wellbeing required	More training is needed for wellbeing promotion

Phase 3: Generating themes

- Looking at the data as a whole instead of individual data items
- Codes combined to form themes or sub-themes
- A single code can be "promoted" to a theme or sub-theme
- RTA: Themes can go beyond content categories or code clusters

Phase 4: Reviewing themes

Questions to ask:

- Is this a theme (it could be just a code)?

- If it is a theme, what is the quality of this theme (does it tell me something useful about the dataset and my research question)?

- What are the boundaries of this theme (what does it include and exclude)?

- Are there enough (meaningful) data to support this theme (is the theme thin or thick)?

- Are the data too diverse and wide ranging (does the theme lack coherence)?

Phase 5: Defining themes

Exhibit 4.3
Definitions and Labels for Selected Themes

Theme 1. "There's always that level of uncertainty": Compulsory heterosexuality at university. Maps the participants' experiences of (infrequent) homophobia and (*constant*) heterosexism and highlights tensions experienced in relating to (straight) others, particularly people who are common sources of heterosexism and overt homophobia (i.e., straight men; members of religious and non-White groups), and feelings, or fear, of exclusion and not belonging. Heterosexism meant participants negotiated their sexual identities in an uncertain environment and experienced constant (but minimized) fear of people's reactions to their sexuality. They had expected university students to be liberal and open minded and were surprised and disappointed they weren't. But they felt this applied if you were "straight-acting," indicating university is a safe space only if you are a "good gay." Participants' experienced difficulty coming out at university but also internalized and took responsibility for these difficulties rather than viewing coming out as something that is difficult because of compulsory heterosexuality. Although participants expressed some anger about experiences of overt homophobia, some homophobic and heterosexist "banter" (e.g., antigay humor) was acceptable if from friends—an indication that friends were comfortable with their sexuality but wasn't acceptable it from strangers. The heterosexual assumption and compulsory heterosexuality were typically framed as a to-be-expected part of normal life.

Theme 2. "I don't go out asking for trouble": Managing heterosexism. Outlines the ways the participants modified their speech, behavior, and practices to avoid heterosexism and homophobia and continually monitored people and the environment for evidence of potential heterosexism or homophobia. They constantly weighed whether it was safe to come or be out with a particular person or in a particular space. The participants typically assumed responsibility for managing heterosexism (they don't "ask" for trouble) and accepted this as a normal part of life. They seemed to lack a sense of entitlement to live free from heterosexism and a political and conceptual language with which to interpret their experiences of heterosexism and homophobia.

Theme 3. "I'm not hiding, but I'm not throwing it in people's faces": Being out (but not too out) at university. Focuses on the degree to which the participants were out and open about their sexuality at university and the management of sexual identity amid competing pressures to be a "happy, healthy gay" (comfortable with and open about their sexuality, with a "fully realized" gay identity) and a "good gay" (not too "overt"; not "forcing" their homosexuality on others).

Theme 4. Mincing queens versus ordinary guys who just happen to be gay. Focuses on participants' resistance to a gay identity as a "master status" (Becker, 1963), an identity that overrides all other identities—they wanted to be seen as an ordinary guy who just happens to be gay. They took responsibility for carefully managing other people's perceptions of their sexual identity, acutely aware that it takes very little to be judged as "too gay" (a "bad gay"). They felt very limited by popular conceptions of gay men and worked hard to distance themselves from the image of the camp gay man, the "mincing queen," the *Sex and the City* gay best friend, the gay style guru . . .

https://sites.psych.ualberta.ca/IClab/wordpress/wp-content/uploads/2022/02/Braun12APAHandbook.pdf

Phase 6: Reporting

Answer your research question.

Tell a coherent and engaging story backed up by data quotes.

Ideally: Link to existing research and discourse.

Exhibit 4.4
Report of Theme 2: "I don't go out asking for trouble": Managing heterosexism [excerpt]

In common with others (e.g., Taulke-Johnson & Rivers, 1999), our participants described monitoring and assessing people and the environment for evidence of potential heterosexism, weighing up whether it would be safe to come and be out. They decided *not* to come out when people made overtly antigay comments. Asha, for instance, took the comment "one thing I just can't understand is gay people" as strong evidence of a potential negative response to his coming out and chose not to. They made decisions *to* come out when people discussed gay-related issues in a broadly positive way, mentioned gay friends, or expressed "gay-friendly" sentiments (e.g., "want[ing] to be the ultimate personal fag hag," Asha).

This monitoring was sometimes a relatively passive process ("I just picked up tell-tale signs about it," Asha); at other times, participants actively "test[ed] the waters" (David) and "tr[ied] and manipulate the conversation to head in that direction and see how to respond to it" (Asha). Asha described this rather evocatively:

> Asha: just basically erm er, does he have a gay friend? Yes or no, is he alright with a gay friend? Yes or no. This person is alright to go out with- you know to come out with and basically if the answers are different the questions are different and the outcomes would be different . . . you're just trying to you know answer all the questions to see what the outcome is and it's kinda a bit of a headache

> VC: It sounds exhausting, and stressful

> Asha: It is, very much so but it's kinda something that I have in the back of my mind . . . I find out you know which box they tick, which box they don't tick and if they tick the right ones or if they tick the wrong ones I know what action to take from there . . .

> VC: Yep yep, god that sounds very hard

> Asha: Well the thing is it's almost kinda- I wouldn't, I don't know it's something that just happens in the background you know- I hardly notice it

> VC: Yeah like this processing that going on and kinda churning away

> Asha: Yeah all these things that you just happens that you're not even completely aware of but it's building up and you know you look back at it you see all these point and you say to my- you say to yourself right "I'm gonna tell this person I'm gay" "I'm gonna" you know and yeah

After initially agreeing with the interviewer, VC's, assessment that this is an "exhausting stressful process" ("It is, very much so"), Asha described it as a more subconscious process, something he "hardly notice[d]." When VC *again* suggested it sounded "very hard," he offered no agreement. Despite his detailed and vivid account, Asha appeared invested in framing this as a mundane rather than negative, and therefore "hard," process. This "minimizing the negative" approach was common: The participants consistently framed phenomena that could be read as evidence of heteronormativity and instances of prejudice (Taulke-Johnson, 2008) as to-be-expected parts of normal life.

Asha earlier vividly described this process in a way that suggested it *was* negative yet implicitly located the problem within his own psychology rather than the environment:

> Asha: constantly monitoring, keeping an eye out, keeping an ear out just you know, the little checklist this worst case- or not a worst case scenario but you're having a list in your mind of all the possible things that can go wrong and you- you're always going over that list of all the things that could go wrong I've kinda built- well personally for me it builds on my paranoia

Reading list for learning RTA properly

Read and cite these if using RTA for a paper or thesis:

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol. 2.* https://sites.psych.ualberta.ca/IClab/wordpress/wp-content/uploads/2022/02/Braun12APAHandbook.pdf

Byrne, David. "A worked example of Braun and Clarke's approach to reflexive thematic analysis." *Quality & quantity* 56.3 (2022): 1391-1412. https://link.springer.com/content/pdf/10.1007/s11135-021-01182-y.pdf

Braun, Virginia, and Victoria Clarke. "Reflecting on reflexive thematic analysis." *Qualitative research in sport, exercise and health* 11.4 (2019): 589-597. https://www.tandfonline.com/doi/pdf/10.1080/2159676X.2019.1628806

If you don't have access to the .pdf:s, use Aalto VPN

Other qualitative analysis methods

- Qualitative Content Analysis. Focus on quantification (code and theme counts), high overlap with Coding Reliability TA

- Affinity diagramming: Visual annotation and categorization using physical post-it notes or Miro

Lucero, Andrés. "Using affinity diagrams to evaluate interactive prototypes." *Human-Computer Interaction–INTERACT 2015: 15th IFIP TC 13 International Conference, Bamberg, Germany, September 14-18, 2015* https://inria.hal.science/hal-01599865/document

AI-assisted (R)TA: Division of work

1. Familiarizing with data: Researcher

2. Generating codes: Researcher codes as much data as possible (time, money, energy), AI continues from there.

3. Generating themes: AI can categorize codes under themes suggested by human. AI can also suggest themes.

4-6. Reviewing, describing, reporting: Human, but AI can provide summary visualizations, tables, and an initial draft report of themes.

Today: Scraping data from Reddit, familiriazing yourself with data & initial manual coding

Tomorrow: AI coding, identifying and describing themes.

How to use AI for data coding?

- Prompt LLMs (ChatGPT etc.) with examples and data to code
- Provide the examples by manually coding at least some data
- More examples => the LLM will follow your coding style more accurately

Example prompt

Below, I will give you a game experience description from a research experiment about experiencing video games as art. Your task is to assist in analyzing the experience description.

The research question is: What feelings, emotions and sensations do players feel when experiencing video games as art?

Please carry out the following task:

- Identify and highlight statements relevant to the research question.

- Respond by repeating the original text, but surrounding the statements with double asterisks (**), as if they were bolded text in a Markdown document. Add the codes for each statement as superscript, between superscript tags [,]. If there's multiple codes per statement, separate them with semicolons.

Below, I first give you an example of the output you should produce given the input.

After that, I give you the actual input to process.

Example LLM input and output:

Input:

I was overlooking a beautiful valley surrounded by snow-capped mountains. There was a massive lake in the middle. Everything seemed so peaceful and serene it was like being inside a painting.

Output:

I was overlooking a beautiful valley surrounded by snow-capped mountains. There was a massive lake in the middle. **Everything seemed so peaceful and serene it was like being inside a painting.** Peacefulness; serenity; being inside a painting

Example prompt

We will use LLMCode, an open source toolkit that implements such prompting under the hood.

https://github.com/Perttu Hamalainen/LLMCode

Below, I will give you a game experience description from a research experiment about experiencing video games as art. Your task is to assist in analyzing the experience description.

The research question is: What feelings, emotions and sensations do players feel when experiencing video games as art?

Please carry out the following task:

- Identify and highlight statements relevant to the research question.

- Respond by repeating the original text, but surrounding the statements with double asterisks (**), as if they were bolded text in a Markdown document. Add the codes for each statement as superscript, between superscript tags [,]. If there's multiple codes per statement, separate them with semicolons.

Below, I first give you an example of the output you should produce given the input.

After that, I give you the actual input to process.

LLMCode other key features

- Verifying that the output contains no hallucinated text, e.g., imaginary quotes

- Supporting multiple workflows with varying degrees of automation – you choose what parts of the process you want to do yourself and what parts to automate

Final report (submit to pass this exercise)

- A .pdf slide deck of 10-20 slides.

- Imagine you are a game designer and presenting your research in a meeting with other designers and management.

- Include:
  - Your research question,
  - What searches you used to find the Reddit threads
  - Which threads you scraped
  - 3-5 key insights. Illustrate your insights with data quotes. If possible, also add game screenshots, data visualizations, code/theme counts etc.

Scraping demo

We use this Colab notebook:

https://colab.research.google.com/github/PerttuHamalainen/LLMCode/blob/master/reddit_scraping.ipynb

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CO PRO ▲ reddit_scraping.ipynb ☆

File Edit View Insert Runtime Tools Help   All changes saved

+ Code   + Text   Reconnect ▼   ✦ Gemini   ⌃

⌄ Scraping posts and comments from Reddit

This notebook is part of the LLMCode library.

Learning goals Get hands on experience in finding and scraping interesting Reddit discussions, which can be useful for, e.g, designers trying to understand their potential target users.

The provided example is for game designers, with the goal of understanding what makes a game memorable, based on discussions about Elden Ring, the remarkably successful hit from 2022.

Before you use this Colab notebook

Step 1: Create a Reddit Account

1. Create a new Reddit account that you will use for your bot, or you can use an existing account.
2. Verify the email address associated with the account.

Step 2: Register a Reddit app (the scraping code needs this for authentication)

1. Go to Reddit's App Page.
2. Click on "are you a developer? create an app..." or "create another app..." if you have other applications.
3. Fill out the form:

   ○ **name**: Your app's name, e.g., "research_scraper"