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# Premature Closure of Analysis in Qualitative Research: Identifying Features and Mitigation Strategies

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**Shahzad Inayat[1], Ahtisham Younas[2], Sergi Fàbregues[3], and Parveen Ali[4]**

**Abstract**

Premature closure of analysis refers to finishing data analysis too early, leading to underdeveloped qualitative findings. It is a critical issue in qualitative research affecting the rigor and trustworthiness of qualitative findings. While much has been written about how to conduct rigorous data analysis across a range of qualitative approaches, there has been no discussion of the features of premature closure of analysis and strategies for addressing it. The purpose of this paper is to outline how to spot premature closure of analysis and to describe strategies to mitigate this issue. Three identifying features of premature analysis are: providing thin descriptions with loaded participant quotes, presenting conventional concepts as themes, and using topic summaries as themes. Using a First Approach to qualitative analysis, working in segments to generate a wholistic thematic output, and critical reflection and examination before finalizing the thematic output can be useful strategies to mitigate premature closure of analysis. Themes and patterns that are too vague and meaningless to provide a comprehensive account of the studied phenomenon are a threat to the validity of the study and a waste of researchers' effort and time. Premature closure of analysis is one of the most common problems affecting the quality of thematic outputs in quality studies. Therefore, researchers should be mindful and critical in their analytical decision-making to prevent this problem.

**Keywords**

data analysis, premature closure, qualitative, research methods

## Introduction

Qualitative data analysis is one of the most essential yet daunting tasks in qualitative research. The complexity of qualitative data analysis can be attributed to its intricate nature and the variety of qualitative approaches and data analysis methods available for use (Lester et al., 2020). The premature closure of data analysis is a critical issue in qualitative data analysis. The concept of premature closure refers to finishing data analysis too early, resulting in underdeveloped qualitative findings (Jones et al., 2012). Beck (2003) identified two types of premature closure: (a) stopping data collection before obtaining adequate or sufficient data, and (b) stopping data analysis before developing a comprehensive conceptual understanding of the data. Goulding (2002) referred to premature closure as the under-analysis of qualitative data, while Holloway and Galvin (2016) described it as inferential leaps, referring to drawing inferences too quickly. Although the concept of premature closure was initially introduced in grounded theory (Glaser, 1978), it applies to all types of qualitative research. Premature closure can result in the generation of superficial and rudimentary conceptualizations, themes, and findings that do not provide a unique or meaningful account of participants' data (Connelly & Peltzer, 2016;

[1]Faculty of Nursing, University of Calgary, Canada
[2]Faculty of Nursing, Memorial University of Newfoundland, Canada
[3]Department of Psychology and Education, Universitat Oberta de Catalunya, Spain
[4]Nursing & Gender-Based Violence, Health Sciences School, University of Sheffield, & Doncaster, and Bassetlaw Teaching Hospitals, UK

**Corresponding Author:**
Shahzad Inayat, Faculty of Nursing, University of Calgary, 4523 43 St NE, Calgary, AB T1Y 6E6, Canada.
Emails: Shahzad.inayat@ucalgary.ca; Shahzadinyat@gmail.com

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Holloway & Galvin, 2016; Knafl & Ayres, 1996). Such an analysis has implications for the quality of qualitative research and may raise criticism about the usefulness of this type of research in informing practice. While much has been written about how to conduct rigorous data analysis across a range of qualitative approaches, to date there has been no discussion of the features of premature closure of data analysis and mitigation strategies to overcome this issue. Connelly and Peltzer (2016) outlined the reasons for underdeveloped themes, including an unclear connection to the research method, the superficial application of interviewing techniques, and the insufficient depth of data analysis. However, they did not provide a detailed discussion of premature closure of themes and their identifiers or strategies to prevent this. Therefore, this paper contributes to bridging this methodological gap by offering a comprehensive discussion of premature closure of analysis in qualitative research and how it manifests itself in published research reports.

## Purpose

The purpose of this paper is to outline the identifying features of premature closure of analysis in qualitative research and to describe some strategies to mitigate this issue. First, we highlight the prevalence of premature closure in qualitative studies published across disciplines and the consequences of this practice on the quality of research, particularly for the possibilities of analytical generalization of qualitative findings. We then identify and summarize the features of premature closure of analysis and describe strategies to prevent its manifestation. We conclude with recommendations to facilitate the identification of premature closure in qualitative studies. Given the lack of attention to the subject of premature closure in the literature, we hope that this article will assist researchers in identifying and addressing this critical methodological issue in qualitative analysis.

## Background

### *Issues in Theme and Pattern Development*

Premature closure of analysis manifests as too many themes and sub-themes, and underdeveloped and superficial themes and patterns, and vague descriptions (Braun & Clarke, 2023; Connelly & Peltzer, 2016). Premature closure may also be evident when researchers stop their analysis based on the identification of first-level assertions or themes (Johnson et al., 2020). Systematic methodological reviews of qualitative research studies (Al-Moghrabi et al., 2019; Ospina et al., 2018; O'Neil & Koekemoer, 2016; Sandelowski & Barroso, 2002; Walsh et al., 2020) and analysis methods (Braun & Clarke, 2023) have shown that premature closure of data analysis, which results in underdeveloped themes and patterns and insufficient information about study methods and findings, is a consistent problem in published qualitative research. For example, Sandelowski and Barroso (2002) reviewed 99 qualitative studies in nursing and found that researchers misrepresented data and analysis methods and provided insufficient clarity about patterns, themes, and conceptual meanings. Braun and Clarke (2023) reviewed 100 qualitative studies in psychology that used thematic analysis. They found a conceptual incoherence in the themes, which included a lack of a solid, cohesive and unified account to explain the phenomenon being studied.

### *Impact of Premature Closure on Research Quality*

At a micro level, premature closure of analysis can have a negative impact on researchers' understanding of the studied phenomenon and participants' experiences (Munhall, 2012). However, at a macro level, it can have numerous consequences for the quality of research, affecting the rigor of qualitative research, the transferability of findings across contexts, and the application of findings in practice (Connelly & Peltzer, 2016). Qualitative findings can be generalized using both a case-to-case and analytic generalization logic, where the former focuses on transferring findings from one group/case to a completely different group/case (i.e., context, setting, or individuals) and the latter entails generalizing from specific conceptualizations to a broader theory (Firestone, 1993). Maxwell and Chmiel (2014) describe internal generalizability as a feature of qualitative data analysis. Since premature closure of analysis impedes the ability to draw valid inferences and generalizability claims from qualitative findings (Flick, 2013), it is likely to have an impact on the internal generalizability of qualitative findings. Baxter and Eyles (1997) claimed that premature closure might likewise jeopardize the dependability of interpretations in qualitative research. For instance, if researchers close analytic constructs before the available data warrants it, the researchers and participants may interpret these constructs differently. This may occur with notions such as "culture", "ethnicity", and "community", which are complex and subject to several interpretations.

Given the above-discussed issues of premature closure of analysis in qualitative research and its negative impact on the quality of this type of research, it is of utmost importance that researchers can recognize if premature closure of analysis occurred in a specific research project. Acknowledging this issue and learning about its mitigation can enhance the design and conduct of qualitative research.

## Identifying Features of Premature Closure in Analysis

### *Thin Descriptions and Loaded Quotes*

The thin description of qualitative findings is one of the most flagrant indications of premature closure of analysis. A thin description is a decontextualized and superficial account of qualitative findings that fails to place the findings within a

sociocultural context (Holloway, 1997). Researchers may have identified appropriate themes and sub-themes that effectively encapsulate the participants' experiences, but then fail to present a thick and in-depth account of these themes. Thin description is easier to explain by contrasting the concept with thick description, which is a narrative of study findings that is meaningful, interpretive, relational, authentic, contextualized, linked, and emic (Younas et al., 2023a).

A thin description in qualitative research is often characterized by the inclusion of a large number of quotes from participants without a more meaningful and contextualized development of the themes or qualitative findings. When thin descriptions are provided with loaded quotes, it appears that researchers expect the data to convey its own significance (i.e., "speak for themselves") or leave it to the reader to interpret the meaning of the themes or findings (Froggatt, 2001). This approach prevents researchers from providing an analytical account of these themes by trying to find patterns in the data (Froggatt, 2001; Oplatka, 2021), thereby failing to go "beyond describing what is in that data" (Goulding, 2002, p. 165). In such cases, the generated theme or finding is described in one or two lines, with overreliance on participant quotes to convey the meaning of the qualitative findings. This type of analytical presentation indicates premature closure of analysis. Bazeley's (2009) analogy of "garden path analysis" summarizes the issue of thin description with loaded quotes. Garden path analysis refers to presenting a large number of quotes or themes to the reader by recapitulating the data without synthesizing them into meaningful findings that provide a rich account of the studied phenomenon (Bazeley, 2009). For example, suppose a researcher writes about the experiences of family conflict among patients with chronic illnesses. In such a case, a garden path analysis might consist of simply listing vague themes (e.g., interpersonal issues, lack of support, daily fights) with a single-line explanation and providing four to five direct quotes under each theme without further describing the conceptual and contextual meaning of each theme or forming linkages among quotes.

The thin description indicating premature closure of analysis may differ across qualitative designs. For example, a thin description in ethnographic studies may merely provide a brief account of the cultural phenomenon, such as "South Asians prefer to live in joint families". This type of description would indicate a premature closure of analysis, as it may fail to provide a deeper account of why South Asians may prefer to live in joint families, who makes decisions in such a family system, and how it affects family functioning and dynamics. van Manen (1984), in his seminal paper, illustrated the difference between ethnographic research writing and phenomenological writing. He noted that an ethnographer describing the culture of a teen center or day-care environment would focus on illustrating a comprehensive account of the experiences of young people living in a particular day-care environment. On the other hand, a phenomenologist would aim to illuminate the structural features and essence of the phenomenon. If such an account is not visible in ethnographic or phenomenological writing, it would indicate premature closure of analysis.

In grounded theory, premature closure of analysis would be indicative of early closure of theoretical sampling, failure to present a grounded theory, or only outlining the concepts of a substantive theory without a compelling narrative to support the assertions made in the generated theory (Birks & Mills, 2022). Charmaz (2006) noted that theoretical sampling is an opportunity for researchers to "push the boundaries of a substantive finding" (p. 107), helping them to elaborate, describe, and illustrate the "so what" factor and demonstrate how categorizations relate to each other and to the phenomenon under study. Early theoretical sampling results in the premature closure of categories, as researchers fail to provide a thick narrative of each category and the overarching phenomenon. For example, if a researcher generates a substantive grounded theory of "Emotion-focused coping in individuals with multimorbidity" but does not provide a detailed and in-depth account of various dimensions or underlying concepts or categories of emotion-focused coping, then premature closure of analysis is evident.

### *Presentation of "Topic Summaries" as "Themes"*

Braun and Clarke (2022a) outlined several indicators of premature closure of analysis in reflexive thematic analysis, including the presentation of topic summaries rather than meaningful themes, the generation of superficial themes that capture only the apparent meanings of the data, and the generation of too many themes and sub-themes. Topic summaries are defined as a collection of all the observations or viewpoints of participants on a certain subject, organized under a broad topic, without necessarily adhering to a central organizing concept (Braun & Clarke, 2022b). The use of topic summaries often proves inadequate for capturing the nuanced experiences and perspectives shared by participants. While intended to provide a comprehensive overview, these summaries often include such a wide range of information that virtually every comment made by participants can be subsumed under a single summary.

Some common examples of topic summaries include "Barriers to care", "Physicians' perspectives", and "Students' perspectives". There are numerous examples in the published literature of topic summaries being misrepresented as themes. Often, researchers refer to such topic summaries as themes. In contrast, themes are patterns in a dataset that revolve around a core concept or construct, provide a shared meaning across multiple viewpoints, and/or explain the relationships between experiences and perspectives (Braun & Clarke, 2022b; Connelly & Peltzer, 2016). A more encompassing definition of theme, which clearly differentiates it from a topic summary, describes a theme as "an abstract entity that brings meaning and identity to a recurrent experience and its variant manifestations. As such, a theme captures and unifies the nature or basis of the experience into a meaningful whole" (DeSantis & Ugarriza, 2000, p. 362). For example, a researcher explored the experiences of men with breast cancer. An example of a

topic summary could be "Process of disclosing illness". However, a theme that more accurately depicts the shared viewpoints and relationships across the experiences of several men could be "Strategic but arduous disclosure of illness to acquaintances or family".

Topic summaries also occur when researchers treat their interview questions as themes (Braun & Clarke, 2022a), indicating premature analysis closure, as it may limit the scope of the analysis to the specific questions and categories identified by the interviewer (Froggatt, 2001). Presenting topic summaries as themes also indicates a lack of interpretive synthesis, resulting in too many themes (Braun & Clarke, 2022a; Connelly & Peltzer, 2016). In this case, the themes described in the study are sparse in nature, consisting of few or even a single analytical observation (Braun & Clarke, 2022a). Byrne (2022) argued that the number of themes might indicate the depth of data analysis in qualitative research. He noted that too many themes reflect an incoherent analysis, while too few themes indicate the failure to explore the data fully. There is no minimum number of themes to demonstrate rigor in analysis. Nevertheless, too many topic summaries presented as themes with no connection to each other or too many themes that do not share a convincing story indicate premature analysis closure.

The presentation of topic summaries as themes may be more prevalent in qualitative descriptive studies, which focus on generating a first-hand account of participants' experiences and perspectives. In studies of this nature, the analysis of data is typically more data-driven, with a lower level of interpretation involved (Doyle et al., 2020). This may lead researchers to primarily rely on pre-determined concepts or ideas. While using pre-determined ideas and concepts is not inherently bad, the presentation of pre-determined ideas and concepts as themes is indicative of a premature closure of data analysis. Sandelowski (2010) alluded to this issue, noting that in qualitative descriptive studies, researchers often fail to include a higher level of analysis and interpretation and rely too heavily on participants' quotes, hence presenting them as themes.

In grounded theory studies, this type of premature closure may be evident when researchers fail to offer a convincing and compelling story of their substantive grounded theory (Birks & Mills, 2022). For example, suppose a researcher conducts a grounded theory study to understand the decision-making process about health-seeking behaviours in men. After conducting several interviews, the researcher realizes that it may be necessary to ask a question on hegemonic masculinity, but ultimately decides to integrate the category of "Hegemonic masculinity" into the grounded theory without substantial evidence supported by rich narrative and participant quotes.

## *Conventional Concepts as Themes*

Presenting conventional concepts as themes is another indicator of premature closure of analysis. We define conventional concepts as words or phrases with widely accepted common meanings, such as teamwork, culture, and knowledge, usually borrowed from theories, models, frameworks or the existing literature. While conventional words and phrases can have deeper meanings within a specific project or context (Younas et al., 2022), they also have apparent or colloquial meanings in everyday language. Suppose that in conducting a descriptive qualitative study to explore healthcare professionals' experiences of interprofessional collaboration in high-acuity settings, a researcher identified two themes: "Teamwork" and "Organizational culture". These two themes convey a generic account and do not fully capture the essence or meaning of healthcare professionals' experiences of interprofessional collaboration. However, with careful refinement and abstraction, the same concept of "Teamwork", has the potential to convey a deeper meaning when applied to a study of family caregivers and their loved ones living with a chronic illness. In the second case, refining this concept into "Using teamwork to address power struggles in care", enables the researcher to highlight how family caregivers and their loved ones work together to address power imbalances during care decision-making.

Premature closure of analysis by using conventional concepts as themes can happen in several ways. First, if researchers place too much emphasis on the face value or apparent meaning of data (Wilson & Hutchinson, 1996), conventional concepts may be selected as themes. For example, in qualitative descriptive studies, a researcher may put a greater emphasis on participants' quotes, choosing catchy words and phrases as themes without engaging in any interpretation. Second, literature reviews are a necessary component of all research. If researchers are committed to the findings of the literature review undertaken as part of the qualitative study and use a deductive mindset for analysis (Mishra & Dey, 2022), the concepts generated from the literature review may become the conventional themes. For example, a researcher conducts a phenomenological inquiry on the essence of existential crises among patients with chronic illnesses. During the literature review, the researcher discovers that another phenomenological inquiry conducted in a different context reported that "Existential crisis is interlinked with lack of social support" and then uses the same theme worded differently as "Social support is a contributing factor of existential crisis" as a theme, which would indicate premature closure of analysis via borrowing the conventional concept. Finally, preliminary coding with a narrow and specific focus hinders the ability to discern data-driven codes and obscures their ability to recognize well-grounded themes (Vaismoradi et al., 2016).

## *Inconsistency Between Themes and Participant Quotes*

Two kinds of inconsistencies between themes and participant quotes can be indicative of premature closure. First, incongruence between the generated themes or patterns and the

quotes that do not reflect the meaning of the theme is a hallmark of poor coding and data analysis (Willig & Rogers, 2017), indicating premature closure of analysis. Kiger and Varpio (2020) argued that qualitative data analysis is incomplete and premature if the generated themes and patterns remain unsupported by the exemplar data extracts. For example, a researcher conducts a narrative inquiry and explores the experiences of patients with chronic illness concerning their suffering and generates the theme "Reconstructing self to adapt to continuous misery", which is described as individuals expressing the need to reconstruct their personal traits, skills, and abilities to better adapt to the misery inflicted by their chronic illness. To support this theme, the researcher offers a quote that emphasizes how families help individuals adapt to the misery imposed by their chronic illnesses. This indicates a mismatch between the intended meaning of the theme and the illustrative quote. The second kind of inconsistency between quote and theme relates to using illustrative quotes, which may offer a clearer and more in-depth understanding of the studied phenomenon than the theme and description offered by the researcher to elaborate participants' experiences through quotes (Lingard, 2019). Sandelowski and Barroso (2002) defined it as "the quote contained evidence for the conclusion drawn, but was under interpreted" (p. 217). Poor interpretation of qualitative data leads to generating themes and patterns that fail to capture the holistic viewpoints of the participants and draw unsupported conclusions (Braun & Clarke, 2022a).

## Strategies to Mitigate Premature Closure of Analysis

Based on the limited qualitative literature that has addressed this issue and our own experience as qualitative researchers, here we outline three strategies that researchers can use to address the premature closure of analysis. We recommend using all three strategies along with the chosen data analysis method (e.g., content analysis, reflexive thematic analysis, constant comparative analysis). These strategies are discussed as follows, and the key features of each with examples from published studies are illustrated in Table 1.

### *First Approach to Qualitative Data*

We define First Approach to qualitative data as devoting sufficient time to and paying close attention to the data prior to analyzing it. At first glance, it may seem that the First Approach to qualitative data is not helpful in addressing the issue of premature closure in analysis. This approach, although not named as such, is advocated and encouraged by a large number of qualitative researchers (Bazeley, 2013; Boyatzis, 1998; Braun & Clarke, 2022a; Dierckx de Casterlé et al., 2021; Miles & Huberman, 1994; Spencer et al., 2013). The First Approach to qualitative data is crucial for generating strong and meaningful themes or patterns that can fully capture the viewpoints and experiences of participants (Braun & Clarke, 2022a). Dierckx de Casterlé et al. (2021) outlined three benefits of utilizing First Approach: (a) it can enable researchers to develop a holistic and rich understanding of contextualized experiences; (b) it can help generate coding frameworks that are grounded in participants' experiences; and (c) it can prevent researchers from developing meaningless codes that fail to capture the research participants' stories. According to Dierckx de Casterlé et al. (2021), these benefits may help to prevent premature closure, among other potential challenges associated with qualitative analysis.

Boyatzis (1998) recommended reading and listening to each data analysis unit and summarizing each bit of data, as this allows for a deeper understanding of the raw information before it is subjected to coding and theme development. Bazeley (2013) emphasized the need to devote sufficient time to reading, reflecting, playing with, and exploring the data. These strategies for First Approach to qualitative data are critical in developing familiarity with the scope and content of the data sources; developing a contextualized understanding of the individuals, their circumstances, and the ideas to be investigated; developing connections between individuals and the data; and intentionally playing with the data to generate preliminary understandings and design a framework for complete analysis. Braun and Clarke (2022a) underscored the importance of the First Approach to qualitative data in the first step of reflexive thematic analysis, namely familiarizing oneself with the data. They argued that becoming familiar with the data is an active and free-flowing process of engaging with the raw data to generate a broader and more contextualized understanding. They suggest breaking down pieces of information across all participants and becoming curious to discover initial topics for further exploration. Bazeley (2013) also recommends using notes, memos, reflective logs, displays, and far-out comparisons at this step to fully utilize the dataset.

### *Moving from Segmented to Wholistic Analysis*

The second and most basic strategy for addressing premature closure of analysis is to start the analysis process in segments and then move towards generating a broader understanding of the phenomenon (Jacelon & O'Dell, 2005; Morse et al., 2002). Segmentation refers to breaking down and disassembling data into manageable pieces of information, coding the segments, and then generating themes or sub-themes. Data segmentation is often a precursor to data coding and analysis. It is useful for delving deeper into the raw data and becoming familiar with the context of data (Bazeley, 2013). Geisler and Swarts (2019) also recommended separating coding from segmenting for all types of written and verbal data prior to a more comprehensive analysis. They noted that segmenting has two key benefits. First, segmenting data prior to coding allows for generating organized, logical, and replicable coding judgments. Second,

**Table 1.** Strategies to Prevent Premature Closure.

| Strategy | Important Considerations | Exemplar |
|---|---|---|
| First Approach to Qualitative Data | • Breaking down the data for each participant and across participants to begin preliminary theme recognition and identification.<br>• Examining each case as a whole and preparing extensively for the coding process - 'look at' the data to see what it should be 'looked for' in the data (instead of coding line by line). | Fàbregues and Paré (2018) conducted a qualitative case study to describe nurse researchers' perspectives on the operationalization and conceptualization of quality in mixed methods research. They used the First Approach to analysis. They transcribed the interviews, created a summary for each interview, and then linked the summaries to the corresponding interview data. This process of going back and forth enabled them to examine assumptions in relation to participant data. The authors then compared all of the summaries to determine thematic similarities and converted the common themes into preliminary codes. After comparing, merging, and refining the preliminary codes, they developed a workable coding scheme for detailed analysis. |
| Moving from Segmented to Wholistic Analysis | • Breaking down data into manageable pieces before coding the data and developing themes and sub-themes.<br>• Compare codes across each segment before theme generation. | Younas et al. (2023b) used reflexive thematic analysis in their qualitative descriptive study to explore nurses' challenges in developing interpersonal and professional relationships during care of individuals with multimorbidity and complexity. Before inductive coding and finalizing themes, they segmented the data across and within cases for manageable and robust analysis. After completing inductive coding, they used the MAXQDA's compare codes across cases function to finalize the codes for theme development. The authors selected the codes based on their volume, frequency, essence, and relevance to the overall study purpose. The final set of codes was refined and collated based on their similarities and essence, and then the theme development stage was initiated. |
| Critically Reflecting on Generated data, themes, and patterns | • Reflect on the analytical process, coding, and themes or categories or substantive theory in a methodological or reflective journal or write a memo to promote analytic thinking.<br>• Keep an open mind for continual modification and renewal of codes, themes, or the final narrative product after examining and reexamining the fit with the data.<br>• Check out rival explanations for codes, themes, or the narrative product to account for each aspect or inclusive understanding of the studied phenomenon. | Hogan et al. (2021) conducted a qualitative study to explore the health-seeking experiences and perceptions of utilization of social support services after intimate partner victimization. They used reflexive thematic analysis and continuous reflection to examine personal assumptions during the analytical process. A reflective journal was maintained to note personal interpretations and their potential influence on the interpretation of data. Working within the team, the researchers engaged in group reflection to enhance the possibility of open and deeper engagement and interpretation of the data before the finalization of themes. |

it allows for the examination of the relative distribution of each code assigned to the segment, resulting in better coding decisions and robust theme generation.

Coding should be completed separately for each data segment, and then codes are compared across segments before detailed analysis is undertaken to generate themes or patterns (Bazeley, 2013). Once the analysis of each segment is complete, the resulting themes or sub-themes must be compared to generate a broader understanding of the phenomenon (Madondo, 2021). Bazeley (2009) offers a three-step Describe- Compare- Relate formula that can be valuable in conducting segmented analysis and moving towards wholistic analysis. The first theme should be developed after describing the context, underlying, and apparent meaning of a data segment and its sources. Second, compare the differences in the themes across participants, groups, or contexts and develop associations between the themes or sub-themes generated. Finally, relate the theme or subtheme to other themes already generated to create a meaningful story through a linked narrative of the theme. This process can be repeated for each theme and sub-theme until a holistic understanding of the phenomenon is reached.

The transition from segmented to wholistic analysis can be optimized through the use of qualitative data analysis software

(e.g., NVIVO, QDAS, and MQXQDA). The software offers researchers the opportunity to better manage their datasets, keep an audit trail of their coding processes and decisions, collaborate as a team during analysis, and break down large data into smaller segments for efficient analysis (Melgar Estrada & Koolen, 2017; Moylan et al., 2015; Zamawe, 2015). Better organization, segmented analysis, and reflective team-based work on coding and analysis, in turn, prevent premature closure of data analysis. Visual tools in qualitative data analysis software allow the examination patterns and linkages among codes, categories, and themes to generate a meaningful account of the studied phenomenon and engage in constant comparative analysis of the data (Maher et al., 2018; Melgar Estrada & Koolen, 2017), hence producing a richer account.

### *Critically Reflecting on Themes, Patterns, or Narrative*

Critical review and reflection on the analysis are critical for assessing the meaningfulness and accuracy of the themes and patterns generated, as well as their relevance to the overall study purpose. One should be open and flexible to change the finalized themes, narratives, or patterns as new insights are generated or discrepancies are identified (Saldana, 2021). When critically reflecting on the themes and patterns, check out rival explanations that might explain some or all of the studied phenomena and modify the themes as needed (Robson & McCartan, 2016). Maintaining a reflective journal or writing memos to record thoughts, biases, and interpretations about the data and the analytical moves undertaken during the analysis process can help researchers assess the relevance and fit of themes to the data, thereby increasing the depth of their "analytic thinking" (Bazeley, 2013, p. 102). Examination of personal biases is essential to ensure that pre-developed concepts, stereotypical ideas about a study population, and borrowed concepts from published research are not presented as new or valid themes (Clark & Vealé, 2018; Saldana, 2021). Another common approach is to allow peers and team members to offer critical comments on the finalized themes and their relevance, fit, and convergence to the participant data (Swanborn, 2010).

Critical reflection on the data analysis and the finalized themes requires researchers to examine the sharpest boundaries between themes and patterns, their distinctiveness, and their connections to contribute to a broader understanding of the phenomenon (Willig & Rogers, 2017). Thorne (2016) suggested that premature closure of analysis can be addressed by critically examining generated themes and patterns and examining all possible solutions while developing connections among themes. Thorne emphasizes the need to challenge oneself and the thematic output and to step back from the analysis to examine subsequent alternative themes and patterns until they are coherent with the study purpose. Ahmad (2017) argues that critical reflection on generated themes also focuses on carefully choosing words and phrases, rejecting vague ones, and revising themes to make them meaningful.

Critical analysis and reflection before finalizing themes are excellent opportunities to discover any discrepancies in the names, meanings, and consistency of themes with the data (Ahmad, 2017; Willig & Rogers, 2017). This reflection requires researchers to reassess the essence of the themes generated and whether the words chosen capture the essence in a meaningful manner. Critical reflection also allows for the refinement of the analytical and interpretive work undertaken to generate themes and then produce a holistic and provocative story about the studied phenomenon (Braun & Clarke, 2022a).

Engaging in critical reflection before finalizing data analysis is also essential to ensure that researchers fulfill their ethical obligation to accurately capture the participants account and experiences and to minimize exploitation (Pietilä et al., 2020; Younas et al., 2022). Capturing the true meaning of participant experiences without introducing bias and personal interpretation is necessary for the ethical conduct of qualitative analysis and interpretation (Younas et al., 2022). Failure to adhere to this ethical consideration jeopardizes the generation of valid, meaningful, and transferable accounts of participants experiences and perspectives. Hence, ensuring that premature closure of does not happen during analysis can in turn promote respect for participants words, experiences, and perspectives, thereby optimizing the ethical conduct of research.

### *Impact of Premature Closure of Data Analysis on Transferability of Qualitative Research*

The transferability of qualitative research is the extent to which qualitative findings are applicable and relevant to diverse contexts with similar features and characteristics (Speziale et al., 2011). Premature closure of data analysis affects the quality of the thick description of qualitative findings, the meaningful interpretation of themes and categories or theories generated, and the inferences that readers can draw from the research findings (Connelly & Peltzer, 2016; Younas et al., 2022). Poor data analysis in qualitative research also affects the overall rigor of the research, hence rendering the conclusions drawn as flawed or underdeveloped (Johnson et al., 2020). Therefore, the overall premature closure of analysis directly impacts the transferability of research across diverse cultural contexts, making it difficult for researchers to translate research into practice, research, and policymaking.

## Recommendations for Assessing Premature Closure

Preventing premature closure of data is critical to improving the quality of qualitative research (Connelly & Peltzer, 2016; Jones et al., 2012; Kvale, 1994; Sipe & Ghiso, 2004). Based on the above discussion and our personal experience of analyzing qualitative data, the following recommendations are

offered for researchers to consider when assessing their generated themes or narratives for premature closure. If the following features are present, there is a likelihood of premature closure of the analysis.

- The final themes or categories are broad and could encompass a wide range of perspectives without providing unique insights into the population or phenomenon being studied. Overly broad themes are indicative of topic summaries.
- The final themes are too narrow and restrictive to account for the diversity of participants' experiences and perspectives, indicating underdevelopment and prematurity.
- One-word themes are used to capture experiences and perspectives on a multifaceted phenomenon. One-word themes can only be useful when used to provide concrete indicators or barriers concerning a specific phenomenon.
- Conventional concepts, ideas borrowed from personal vocabulary, and colloquial terms are used as themes.
- Themes are mere repetitions of the parts of the research questions or are developed directly from the research questions.
- The exact wording of the codes is borrowed and converted into themes.
- The finalized themes are more centered on the data from only a few participants and do not represent all the participants and their experiences or perspectives.

## Conclusions

Qualitative data analysis is an intensive and iterative process requiring thoughtful consideration of the analytical processes as well as the thematic output. Themes and patterns that are too vague and meaningless to provide a comprehensive account of the studied phenomenon are a threat to the validity of the study and a waste of researchers' effort and time. Premature closure of analysis is one of the common issues affecting the quality of thematic output in qualitative studies. To prevent premature closure of analysis, researchers should be mindful and critical in their analytical decision-making. Using First Approach to qualitative analysis, working in segments to generate a wholistic thematic output, and critical reflection and examination before finalizing the thematic output can be useful strategies to mitigate premature closure of analysis.

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### ORCID iDs

Shahzad Inayat https://orcid.org/0000-0003-3692-0776
Ahtisham Younas https://orcid.org/0000-0003-0157-5319
Sergi Fàbregues https://orcid.org/0000-0003-1141-7613

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