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Using Critical Incident Methodology in Healthcare Leadership: a first-time users experience.

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Abstract:
Purpose
To share the experience of using Critical Incident Methodology (CIT) within the context of female leadership in healthcare.
The research methods employed to use CIT effectively within a time pressured, overloaded cohort, whilst obtaining quality data will be described. The experience of the researcher using this method will be expressed to promote understanding and usability for others.
Findings
CIT offers a timely, profound and effective method for gaining qualitative insight within an environment that is time and energy pressured:
The nature gave agency to the participant in their own timeframe, pace and degree of divulgence. This less demanding approach enabled a good response rate.
The data gathered was powerful and tapped into reactive experience recollections.
A third-party collating data ensured anonymity and enhanced trustworthiness whilst validity was enhanced by a second reader.
Plentiful and rich data within the specified context, enabled thematic analysis to proceed.
Analysis was lengthier than expected due to volume.
Overall, having achieved a good response rate from an active cohort and a high-quality data set within a time critical context, the researcher experience is positive. The benefits and potential are applauded and are to be shared.

Type of paper: Research Paper

Limitations/implications: Restricted to One Authors experience of a qualitative research technique in a particular area.

Originality/Value: All work is original.

Keywords: Critical Incident Technique, Qualitative Research, Women in Healthcare Leadership

Part 1.

1.1 INTRODUCTION:

Critical incident technique (CIT) is an inductive tool for conducting focussed qualitative research, first derived by Flanagan in 1954. The technique has evolved over time and has been adapted to a variety of contexts where the understanding of behaviour and experiential learning have shaped practice (Chell, 1998).

Using this technique for the first time within the context of females in healthcare leadership in the Northwest of England, has given rise to an extremely rich and emotive database. The method used, reflections on the researcher experience and learning derived from this process will be shared along with limitations of the study.

Part 2.

2.1 THE CRITICAL INCIDENT TECHNIQUE (CIT)

Originally used in a psychology context, CIT has documented use over the years in a variety of contexts to gather evidence around experiences or behaviour (Butterfield et al, 2005). There are no rigid rules, but a 'flexible set of principles' to be adapted for the context of the application by modification (Flanagan, 1954). This technique uses a clear, line of enquiry, aimed at identifying precise, significant information, usually in the form of two questions asking for a recall of positive and negative experiences of a determinant. An incident is deemed critical if it makes a significant contribution, either positive or negative, to an experience or activity. (Flanagan 1954). Thereby, giving a structured framework for varied contextual application to efficiently gain qualitative, point-in-time narrative by 'deep diving' into the experience of the target population (Butterfield et al, 2005).

This has proven successful and versatile in many contexts, likely due to the 'relaxed eligibility criteria' cited by Serrat (2017) for example, the hotel sector (Edvardsson and Strandvik, 2000) or education (Douglas et al 2009) amongst a wide range of others. Healthcare has also featured within academic research as highlighted by Viergever (2019), where understanding significant positive and negative behaviours and experiences are essential to robust governance and safe service provision.

The procedure originally outlined by Flanagan (1954) follows a basic five step process:

i. **Determination** of a clear general aim of the activity in simple terms.
ii. **Development** of a plan of action of how the aim will be achieved, the participant instructions and how the data will be evaluated.
iii. **Collection** of relevant data. This can be by interview, questionnaire or objective record review which are equally valid in terms of data quality.
iv. **Analysis** of the data to efficiently distil the salient points for practical use.
v. **Interpretation** of results giving preference to factual reports of relevant behaviours over general impressions.

This also includes a bias and limitations declaration for each step.

The benefits if CIT include access to real-life experience, versatility of application, clear objectives, efficiency of process, relevant data yield and succinct practical output. (Chell, 1998; Butterfield et al, 2005; Viergever, 2019). The analysis requires simple judgement which is less open to misinterpretation (Flanagan, 1954) and may often form the 'root' of a theory or provide a point on which to base further exploratory research (Kain, 2004; Bott and Tourish, 2016).

The process is relaxed and unforced which may result in a powerful data yield (Chell, 1998), which Kain (2004), describes as ‘portraits of significance’.

Ease of application is offset somewhat by limitations including reduced reliability and an incomplete data landscape which may reduce the generalisability of results. Probity of answers must be assumed with the emotional significance of the event taking precedence over any errors in the factual recall of the event (Bott and Tourish, 2016). The data set produced is based on single point in time response to the determinant aim activity. Unfortunately, despite the plentiful examples of adapted use over the years, CIT remains less credible than other qualitative methods of research, a point reasoned by Kain as partly due to the ‘researcher as instrument’ approach rather than using a more formal research tool (Kain, 2004).

CIT is best conducted as a stand-alone project as conflicting priorities during interpretation of results have been noted when conducted as part of another research (Viergever, 2019).

There appears to be a dearth of literature explicitly capturing the users experience of CIT. Comparison in this respect is, therefore challenging.

2.2 APPLICATION OF CIT IN THE CONTEXT OF WOMEN IN HEALTHCARE LEADERSHIP

Guidance and recommendations towards a gender balanced leadership environment, particularly in the National Health Service (NHS) is well articulated in the literature, (Dacre et al 2020; Sealy, 2020). Guidance around such objectives highlights the relevance of narrative and lived experience as an important asset to the transformation and opens the conversation to help guide the future (Bolden et al, 2019; Dacre et al 2020; Sealy, 2020; McKinsey, 2022).

i. The **Determinant** aim for embarking on the research was to gain a narrative from current female leaders at a healthcare trust about their positive and negative experiences that had impact on their leadership trajectory. Women holding leadership positions within the domains of Medicine, Nursing, Operations and Support Services were appealed to for engagement. This data would inform a Leadership Development Programme for Women in the future at this trust.

Healthcare leadership can be a demanding and time poor environment with females often further distanced due to competing demands (Raven 2023; Stokel-Walker, 2023). and a ‘stronger headwind’ (McKinsey, 2022). These pressures make engagement with experiential narrative increasingly more difficult. (Raven 2023; Stokel-Walker, 2023), yet, ironically, the understanding of these issues is crucial to the aim. Within this context CIT had potential to become an attractive and efficient resource in gaining access to critical events articulated by the users as vehicles for experiential learning. (Chell, 1998). A focussed, efficient, potentially quick approach may present as more attractive in terms of participation and time to complete. The loosely structured, unforced, yet potentially highly emotive nature of the enquiry may invite a busy participant who has a wealth of experience to share in their own time (Chell, 1998).

ii. The **Development** of a clear process included ethical approval and a participant information sheet outlining objectives, process and avenues of support. In anticipation of potential biases: A third party was to be used for data collection, anonymisation and collation; a second reader was enlisted for analysis and evaluation against the chosen framework. Information was transparent with a clause for participants to withdraw at any time up until completion of analysis.

Flanaghan (1954) cited four potential methods for data collection using CIT: interviews, either individual or group discussion, questionnaires or review of records. Whichever tool is used, the aim is for an incident to be described then the participant explain what makes it significant, ergo critical, for them. (Kain, 2004).

iii. The vehicle for **Collection** in this context was questionnaire. The rationale being the anticipation of the advantage participant autonomy may offer to complete at a time and space suitable to them could be taken, thus maximising engagement. Information was delivered via trust secure email to the participant cohort along with the participant information sheet and consent. All further correspondence from the first email was conducted through a third party. This enabled effective anonymisation and collation of data, thereby minimising researcher bias and potentially augmenting trust.

Two succinct questions regarding positive and negative experiences were devised with encouragement to explore emotions and impact at the time. The position of each question at the top of a blank page implied an 'open question' nature, covertly encouraging agency of choice and divulgence for quantity and depth of response.

It is with the primary intention of distilling the 'usefulness' of the data that analysis takes place (Flanagan, 1954). Selecting the optimal degree of comprehension whilst preserving specificity and validity may be subject to a variety of influences such as cohort size. Frame of reference, category formulation and general behaviour are aspects to consider during analysis, with the experience and insight of the researcher potentially a key to drawing out the high value messages (Flanagan, 1954).

iv. **Analysis** in this respect, in the context of women in healthcare leadership was considered alongside a development framework. This framework cited by Roth et al (2016) incorporated individual, organisational and developmental foci for consideration, with other issues taken from current literature calibrated within (see Figure 1). The independent second reader was enabled to feed into the analysis using the same framework. The intention of this manoeuvre was to improve reliability and validity and reduce insider bias (Ronan and Latham, 1974; Simundic, 2013).

To minimise faulty inference from data interpretation, Flanagan (1954) recommends three aspects for effective interpretation: 1. evaluation of the prior four steps to recognise potential bias and limitations; 2. Recognising the nature of the judgements made and 3. The emphasis of the value and essential message gained from examining the experiences offered. (Butterfield et al, 2005).

v. This advice for **interpretation** was followed with further objectivity augmented by anonymity, having a second reader and consistent framework to refer to.

Figure 1: Framework for Analysis of Data (Based on Roth et al, 2016)

Individual	Self Choice Role Modelling
Organisational	Awareness Transparency Training Redesigning Work
Developmental	Talent Management Succession Planning Mentoring Networking

2.3 RESULTS

Using the illustrated method, in this instance, there was a 30% response rate within 10 days with all replies writing compelling narratives for both positive and negative question arms.

The volume yield of almost 7,500 words was highly descriptive and rich with emotive content.

2.4 REFLECTIONS OF A FIRST TIME CIT USER

The following informal reflections are from the primary researcher, an Emergency Physician and then member of the leadership cohort at the same trust. Reflections are gathered in terms of significance to process and personal impact.

Process

- The 5-step approach was clear yet versatile and straightforward to employ.
- In the time pressured environment of healthcare leadership, CIT gave flexibility and choice to the participant to engage as and when they were able. This was true for both researcher and participant and was attractive enough to yield a relatively high return. That said, the target population may have a keenness to vocalise their experiences and took up the opportunity without resistance, however, the response rate was welcomed and considerably higher than expected.
- Using this method within the context of healthcare it was important to recognise the difference between Critical incident Technique and a typical 'critical incident' which, for those in healthcare, may conjure thoughts of serious untoward incidents (SUI) from a governance perspective.
- The versatility offered by the CIT confers transferability to other scenarios where a qualitative account is required, yet time pressure may limit full qualitative enquiry.
- The use of a third party was crucial to the maintenance of anonymity. This enabled an active reduction in researcher bias. Anonymity may also have aided response and divulged information.
- Analysis using a second reader for objectivity also proved vital to the improvement of reliability and validity and further reduce researcher bias.
- Using females as a target population included an options appraisal of including those that identify as female.
- The surprising high-volume yield of data took longer than expected to analyse thoroughly which took double the allotted time. In future more time would be allocated for analysis in anticipation of a high yield.
- Using a pre-formed framework gave direction and focus to the analysis which allowed other obvious emergent themes to stand out. In this respect the bedrock of the analysis was found to be more direct and unambiguous, in keeping with the ethos of the original technique described by Flanagan (1954). Themes beyond the framework emerged from the deeper layers of data with sophisticated threads of language and interdependence coming to light as topics were explored.
- The information gained form the data may be incomplete, however, the scope of significance illustrated from the data aligned to the framework and may certainly offer a basis for further evaluation. In terms of the 'usefulness', the data provides a good evidence base on which to base a development programme.
- Recognising and disclosing the limitations of the technique gave liberation to the emergent nature of the research in the knowledge that completeness was not the goal, but a test of significant thoughts and feelings surrounding a topic.

Personal

- For the Emergency Physician, or ‘resilient crisis manager’ (Pajonk et al, 2011) a direct approach to anything becomes preferable. Balanced with an appreciation of the lived experience of real people, CIT becomes a timely, high quality and effective tool for qualitative research.
- The ability of the technique in this instance to unearth powerful emotions in a ‘deep dive’ must be recognised. The language was emotive as the topic and themes emerging from the questions clearly held much significance to the participants.
- As a member of the participant cohort, recognition must be given to the ‘insider’ element to the research (Costley, Elliott and Gibbs (2010). Efforts were taken to minimise the potential bias from this perspective; however, three prominent issues arose:
  - It was possible occasionally to infer the source of the data to the employment domain, ie medical, nursing, operational and support services. At no point was an individual identified.
  - Deeper understanding and potential inference of the context of the divulged information was appreciable to the researcher as a cohort member. This was somewhat mitigated for with the second reader to avoid over analysis.
  - The emotive nature of the responses occasionally had upsetting impact on the researcher.
- The timeframe for analysis of the data had to be altered post collection with significant changes to rostered activities made to accommodate the significant quantity. This may need to be anticipated for in the future with other studies.
- The versatile nature of CIT lends itself to a more creative approach to data capture. In this instance, the researcher was comfortable with this and appreciated the relative ‘freefall’ nature of the journey with 5 steps for adherence and artistic license on the brief etc. This approach may not suit other, more traditional researchers in whom a less dictatorial method may incite fear.
- The clarity and relatively open nature of the process was enjoyable from a researcher’s perspective.

Part 3

3.1 CONCLUSION

In summary, the CIT offers a useful, highly versatile method for qualitative research within the time pressured environment of healthcare leadership. This benefit is likely to be transferable to contexts with a similar time pressure.

Recognising the limitations of the technique and managing the expectations of the result is crucial to the process and may allow the researcher to gain access to a landscape of understanding rather than a more complete picture.

Using a third party to anonymise data and second reader for analysis whilst adhering to the 5-step process of CIT gave a further element of credibility to the research by reducing bias and improving reliability and validity.

The wealth of relevant, high-quality data received that achieved the set aims and objectives was significant, highly useful and fit for purpose. The volume of data yield was unprepared for and in future a greater time allocation for analysis would be factored into the schedule.

The freedom offered by CIT whilst guided by a clear 5-step framework may open opportunities for qualitative research to those naïve to research possibilities or those comfortable with an emergent approach to research.

All opinions authors own.

No conflicts of interest.

Part 4 No Annexe

Part 5

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