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# Technology Ethics in Qualitative Research: How to Be

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## Technology Ethics in Qualitative Research: How to Be

### **Abstract**

This introductory note stems from the organization of a special edition of articles from the World Conference on Qualitative Research. Some researchers put forth criticisms about using software in qualitative data analysis, such as losing control in the coding process and leading researchers to use a particular method of analysis according to tool characteristics. Moreover, a number of the scientists believe that the advantages of using specific tools in data analysis are numerous, such as the analysis of an enormous amounts of data, but doing research involves personal or institutional aspects that enter the field of ethics. In the case of specific qualitative data analysis software, it would be possible to list a set of principles that would begin with the organization and importing of data, proceed with their interpretative and descriptive codification followed by questioning the data, up to exporting results to their written dissemination. Such principles could set the boundaries or define ethics in the use of software, referring to any research activity that touches what is right or wrong, good or bad, moral or immoral. This text is in line with the belief shared by others that work studies that can be performed on computational ethics will influence not only the use of Qualitative Data Analysis software but also their development.

### **Keywords**

Qualitative Research, CAQDAS, Research Ethics

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*This introductory note stems from the organization of a special edition of articles from the World Conference on Qualitative Research. Some researchers put forth criticisms about using software in qualitative data analysis, such as losing control in the coding process and leading researchers to use a particular method of analysis according to tool characteristics. Moreover, a number of the scientists believe that the advantages of using specific tools in data analysis are numerous, such as the analysis of an enormous amount of data, but doing research involves personal or institutional aspects that enter the field of ethics. In the case of specific qualitative data analysis software, it would be possible to list a set of principles that would begin with the organization and importing of data, proceed with their interpretative and descriptive codification followed by questioning the data, up to exporting results to their written dissemination. Such principles could set the boundaries or define ethics in the use of software, referring to any research activity that touches what is right or wrong, good or bad, moral or immoral. This text is in line with the belief shared by others that work studies that can be performed on computational ethics will influence not only the use of Qualitative Data Analysis software but also their development.*

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This introductory note stems from the organization of a special edition of articles from the World Conference on Qualitative Research ([www.wcqr.info](http://www.wcqr.info)). The 10 articles do not discuss the topic of Ethics in the studies presented, but it is a field that is reflected in all the texts.

Qualitative Research is characterized by an immensity of methods and techniques that make it diffuse, emergent, and attractive. If we talk about creative processes, we can say that the researcher can still follow different paths and explore different ways of approaching the problems and questions s/he faces. On the other hand, in the last 20 years numerous IT solutions have arisen to support researchers in almost all the research project phases. Currently, the use of these tools reduces manual work, allowing the researcher to focus on the so-called “intellectual” work.

The emergence of these software packages enumerated the advantages and disadvantages of using these tools (Costa & Amado, 2018; Costa & Minayo, 2018). In the 1980s, Brent (1984) mentioned the computational skills that researchers have yet to acquire as a disadvantage. Gibbs, Friese, and Mangabeira (2002) argue that software is less useful to address validity and reliability issues in the thematic ideas that emerge during data analysis. Lage and Godoy (2008) list a set of criticisms of software in qualitative data analysis: a) the possibility of losing control in the coding process; b) confusing the software with the methodology; c) encouraging complex and detailed coding structures, resulting in over-coding; d) unnecessarily increasing the amount of data collected, leading to the risk of compromising the in-depth analysis; e) having impossibility of communication between systems (i.e., software packages); and f) leading researchers to use a particular method of analysis according to the characteristics of the tool.

Complementarily, a large part of the scientific community believes that the advantages of using specific tools in data analysis are numerous: (a) they allow the analysis of an enormous amount of data; (b) they include contextualisation and validation procedures; (c) they allow the

definition of categories in an inductive and deductive way: codification and recoding, exploration and crossing of different data formats (e.g., text, image, audio, and video); and (d) they allow advanced visualizations of the data, among other reasons (Costa, 2016; Lage & Godoy, 2008; Spannagel, Glaser-Zukuda, & Schroeder, 2005).

The use of specific tools for certain purposes, such as for the analysis of qualitative data, is something that we could almost qualify as unavoidable. The researcher may have realized that it is relevant to inform his/her reader about which tool s/he used to analyse this type of data, in some cases, even though s/he did not use any of them. In this context, due to different factors, researchers sometimes lose the notion of “how to be.” We thus entered the field of ethics in the use of technologies. According to Ingleby (2012), “Ethics concern right and wrong, good and bad” (p. 51) and “ethical considerations will arise from the very nature of the particular research being pursued at the time; situation determines behaviour” (p. 61).

The same author presents a set of steps, some of which we comment on below, delving into what they imply. One is related to respect for protocol. In fact, the researcher must ensure that all those involved, whether they are informants, groups, entities or relevant authorities, are consulted and informed about the study that is being conducted and that everyone has obtained the inevitable consent and agreement to proceed, anticipating and respecting eventual refusals.

However, there is a whole other set of participants that has to be involved in the equation, ensuring that the goals and objectives of the research project are enriched by broad, possibly disparate, but equally important, views of the former. Given that we are not always lucky enough to get everyone to participate in a committed way, we must negotiate and ensure that their participation, responsibilities, and aspirations are taken into account.

All progress must be kept open, transparent, and receptive to criticism and suggestions that allow the natural “blindness” of those who get too caught up in a study to be clarified by other perspectives and points of view, giving it substance and enriching it. After all, since research work is eminently inquisitive in nature, peer questioning should never be overlooked.

Ethical issues in technology may also include behaviours that are not occurring. For example, an author might not use a reference manager (e.g., Mendely, Endnote, or Zotero). Or, in a given publication, reference to certain authors may be skipped, the authors’ referenced might be inapplicable, or the references might be used half-heartedly. This makes it more difficult for the researcher who may have trouble finding the sources or may find unreliable results. It also could lead to situations of plagiarism.

The observations made above are transversal to any research work and should not be taken as negligible. There are, however, other aspects of ethics that arise from the use of technologies that also deserve reflection. Examples of this are the ways in which collaborative research (Costa, 2016; Costa & Costa, 2017; Costa, Souza, & Souza, 2016) mediated by technologies that involve online sharing and simultaneous work of data that are intended to be reliable, and which depend on the degree of suitability of the team members. There is no point in sharing sensitive data that is not respected in regard to confidentiality and degree of sensitivity. Whether the researchers involve personal aspects of themselves or the participants, involve institutional entities (e.g., funding entities, hosting institutions, and data collection settings), or incorporate the generation of capital gains—such as data which, because of their potential commercial nature, will require the signature of confidentiality terms and should not be disrespected.

In the case of specific qualitative data analysis software (for example webQDA, NVivo, MaxQDA, Atlas.ti, Dedoose), it would be possible to list a set of principles that would begin with the organization and importing of the data, then their interpretative and descriptive codification, followed by questioning the data, up to the exporting of results and their written “exhibition.” These principles could set the boundaries or define ethics in the use of

software: referring to any research activity that touches what is right or wrong, good or bad, moral or immoral (Stahl, Eden, Jirotko, & Coeckelbergh, 2014)

We believe, in the line with the reasoning of Stahl, Eden, Jirotko, and Coeckelbergh (2014), that work studies that can be performed on computational ethics will influence not only the use of Qualitative Data Analysis software (CAQDAS) but also their development.

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António Moreira holds a PhD in Foreign Languages Teaching Methodologies from the University of Aveiro, where he performs teaching and research activities. With several books, chapters, articles and educational software published in Portugal and abroad, he coordinated the Nónio Século-XXI Local Competence Center, the Digital Contents Laboratory of the University of Aveiro, and the Specialisation Training Courses and Master Course in Multimedia in Education. With main involvement in post-graduation, he is the Director of the Doctoral Program in Multimedia in Education and his main research interests are Cognitive Flexibility Hypertexts, Communities of Practice and Random-Access Instruction. From late 2010 until early 2015 he was the Director of the Department of Education, University of Aveiro.

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