Article

Qualitative Social Work
2019, Vol. 18(3) 436–442

DOI: 10.1177/1473325017744860
journals.sagepub.com/home/qsw
SAGE

Improving outcomes with Qualitative Data Analysis Software: A reflective journey

Austin G Oswald
University of Georgia, USA

Abstract
Now more than ever, qualitative social work researchers are being called upon to conduct increasingly complex, multifaceted, and intersectional research. Given the heightened complexity of social work research, it is necessary that scholars learn strategies to streamline the research process and digital tools for qualitative research are a mechanism to do so. In this paper, I share insights gleaned from personal experience working with Qualitative Data Analysis Software, specifically MAXQDA 12, to support a larger study that explored the social lives of older gay men. This paper highlights the various functions of MAXQDA 12 and how qualitative social work researchers can use the program to improve the research process and outcomes. Despite the rapid growth in production of digital tools for qualitative research there remains a dearth in studies that explicitly address how digital tools are used in the extant literature on qualitative research. This paper sheds light on this noted gap in the literature by exploring the functionality of MAXQDA 12 and how it can be applied to improve qualitative social work research.

Keywords
QDAS, reflection, software, technology

Now more than ever, qualitative social work researchers are being called upon to conduct increasingly complex, multifaceted, and intersectional research. The Council on Social Work Education (2008) makes a strong case for needing more research that explores multiple social systems and generates findings that can be applied to social work policy and practice. Consequently, qualitative social work

Corresponding author:
Austin G Oswald, The Graduate Center, City University of New York, 365 Fifth Avenue, New York, NY 10016, USA.
Email: aoswald@gradcenter.cuny.edu

researchers are often expected to work with large datasets that include multiple voices from people of different standpoints and social positions (Newman and McNamara, 2016). In addition to this, studies may involve different forms of data and ways of representing data in order to increase the depth of analysis and provide a composite story of the phenomenon under investigation (Drisko, 2016). Given the heightened complexity of qualitative social work research, it is necessary that scholars learn strategies to streamline the research process and digital tools for qualitative research are a mechanism to do so (Paulus et al., 2014).

In this digital age, the proliferation of digital tools and technologies that support the research process has presented qualitative researchers with the conundrum of deciding which tools to use, if any, to support their research. Davidson and Di Gregorio (2011) point out that qualitative researchers have always relied on technology to support the research process (e.g. audio recorders, notebooks, and pens). Recently, advanced technologies such as Qualitative Data Analysis Software (QDAS) offer researchers sophisticated tools to improve the research process. Gilbert et al. (2014: 226) define QDAS "as programs intended to support the tasks of qualitative researchers. That is, programs developed within the culture of qualitative research and specifically designed for the purpose of supporting that research." QDAS is designed with specific purposes in mind and Gilbert (2002) argues that researchers must select programs that best align with their style of thinking, methodological orientation, and research goals. As such, it is imperative that qualitative researchers are informed of the various QDAS programs and their innovations to select the most appropriate program to support their research endeavors (Leitch and Oktay, 2016). The purpose of this paper is to explore how QDAS, specifically MAXQDA 12, can be used to enhance qualitative social work research. In particular, I focus on how MAXQDA 12 can assist with managing and streamlining the research process.

The research context

The data that are being used in this paper to illustrate the utility of QDAS are from an ongoing study on the social lives of older gay men. Data were generated through in-depth qualitative interviews of 10 self-identifying gay men over 65, which lasted between one and three hours. Principles from Charmaz's (2014) constructivist grounded theory were used to guide the analysis, with the support of MAXQDA 12, through which an emerging theory to describe older gay social life is being generated. The data that are represented in this paper have been anonymized and actual names have been replaced with pseudonyms.

MAXQDA and its functionality

MAXQDA is one of many programs available to qualitative researchers (e.g. Atlas.ti, NVivo, and Dedoose). Although QDAS programs are similar in nature each one offers minor differences that may bestow unique affordances or

constraints onto the research process (Paulus et al., 2014). In this section, I will describe the functionality of MAXQDA 12 and how I used it in my study on the social lives of older gay men.

There are several universal affordances that QDAS offers qualitative researchers. One benefit is that QDAS can enhance confidentiality by providing a platform where data generated during a study are imported, stored, and secured. Given that most social work research explores sensitive topics from the perspectives of vulnerable populations, it is important that provisions are made to protect study materials (Shaw, 2003). In the case of older gay men, Kong et al. (2002) argue that historical and current discrimination toward gay men shape perceptions of the research encounter and create an overwhelming need for privacy and confidentiality. Several of the participants in my study on older gay social life expressed concern for how the findings would be represented and how private information would be protected. MAXQDA 12 offered an additional layer of protection to safeguard study materials. I stored all of the research documents in MAXQDA 12, which was secured with a password and installed on a password-protected computer. I shared the various methods through which confidentiality was secured with concerned participants and this helped to establish trust and increase the depth of our discussions.

QDAS also helps to streamline the research process by providing a single program to assist with organizing, exploring, interpreting, and integrating data (Davidson and Di Gregorio, 2011). MAXQDA 12 accommodates multiple formats of data such as textual, graphic, video, audio, and twitter feed in an integrated manner. A unique affordance of MAXQDA 12 is MAXApp, a free application available for iSO and Android devices. MAXApp is a mobile application that provides a forum for researchers to write memos, take pictures and videos, record audio, and code data during fieldwork. I used MAXApp to document my fieldwork; I wrote memos on important insights gleaned from the interviews and took pictures of relevant observations during my time in the field. I was able to seamlessly transfer information captured in the mobile app to MAXQDA 12 for further analysis.

With the support of MAXQDA 12, I organized my data by grouping the transcripts and images by the phase in which the data were collected (e.g. Phase 1 and Phase 2). I read the transcripts directly in MAXQDA 12 and I was able to enlarge the text and screen size to assist with viewing the data. Keeping electronic records of all study materials afforded me the opportunity to bring my analysis with me virtually everywhere, without concern of losing important information, and I transformed otherwise mundane activities, like commuting, into creative analytic workspaces. See Figure 1 for an example of the MAXQDA 12 interface.

Figure 1 demonstrates MAXQDA's integrated platform. You will notice how I stored relevant research materials (e.g. audio files, transcripts, memos, diagrams, and codes) directly in the program and the large window to browse documents. Additionally, the interface offers easy access to a number of important functions such as opening new projects, accessing MAXApp, and viewing memos. Having an organized and integrated platform to store all relevant research materials is essential in managing and streamlining the research process.

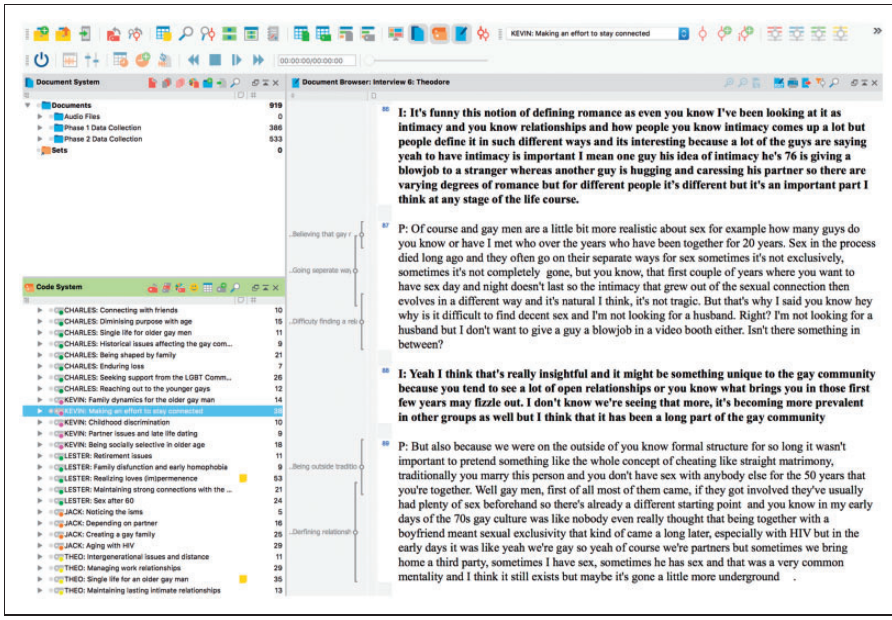

Figure 1. MAXQDA 12 interface.

MAXQDA 12 supports the interpretation of qualitative data through the various coding functions. Coding in MAXQDA 12 is intuitive and the program offers multiple options for open and focused coding procedures (Charmaz, 2014). I coded all of the data directly in the program, working recursively, until establishing categories with strong analytic power (Charmaz, 2014). Additionally, MAXQDA 12 provides an integrated system that supports memo writing. It was easy to memo about my nascent ideas as they occurred to me and link memos to different segments of data or the dataset as a whole. Furthermore, memos written in MAXQDA 12 are automatically time stamped and archived, thus, documenting the inductive design and creating an audit trail. See Figure 2 for a visual of the memo writing feature.

Figure 2 captures the memo writing feature in MAXQDA 12. In this example, I created a summative, analytic memo that illustrates key points that emerged from my analysis of Kevin's interview. I linked the memo to specific codes within Kevin's dataset to provide an evidence base for the memo and ground it in the data.

MAXQDA 12 offers a few diagramming features that enhance data integration. Diagramming enables researchers to see the "power, scope, and direction of categories [. . .] as well as the connections among them" (Charmaz, 2014: 218). Diagramming is an ongoing analytic practice and "can serve useful and diverse purposes at all stages of analysis" (Charmaz, 2014: 219). The diagramming features in MAXQDA 12 allowed me to work directly in the program and I was able to easily revise and save different iterations of my diagrams based on my emerging analysis. With the support of the creative coding and MAXMaps features,

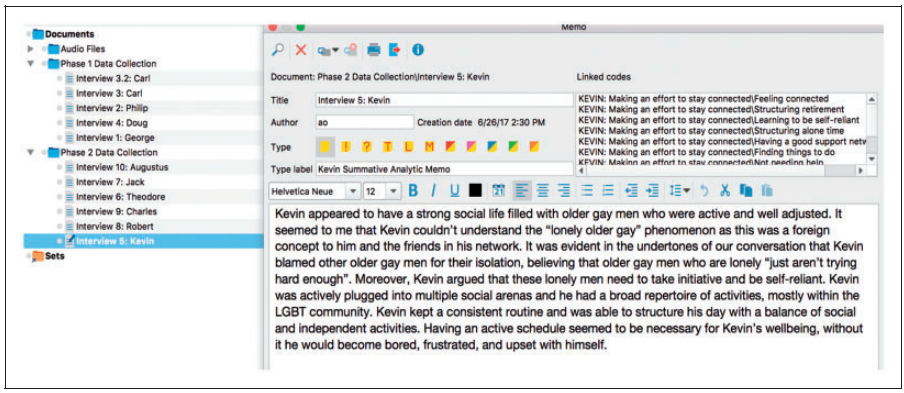

Figure 2. Memo feature.

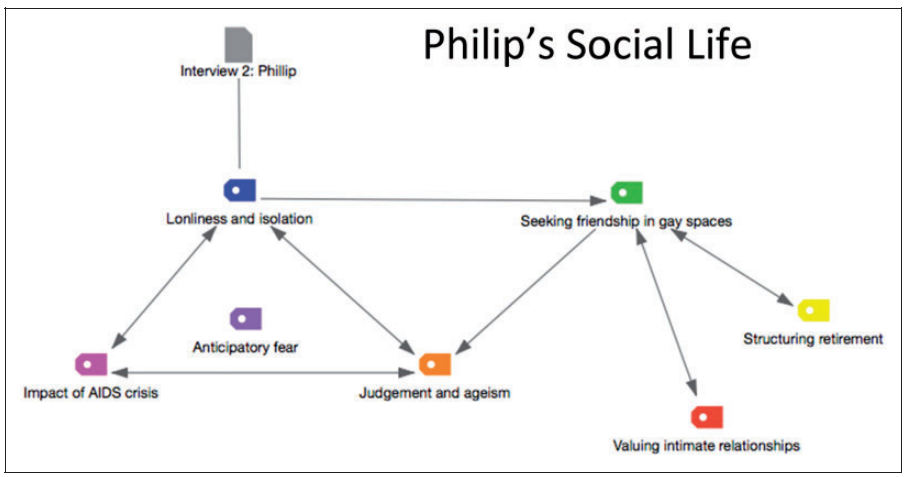

Figure 3. Creative coding feature.

I imported seminal codes and categories into a blank canvas and worked recursively in the program, visualizing relationships among the data. Figure 3 illustrates how I used the diagramming feature in MAXQDA 12 to visualize the relationships among the data in Philip's dataset.

Figure 3 is one example of several diagrams that I constructed in MAXQDA 12. Each label within the diagram represents a focused code that is linked to supporting open codes. The diagram illuminates the connections among codes generated from my analysis of Philip's interview. Philip's narrative had an overarching theme of *Anticipatory Fear* which emerged out of experiencing *Loneliness and Isolation*, *The Impact of the AIDS Crisis* and *Judgment and Ageism*. Feeling *Lonely and Isolated*

prompted Philip to intentionally seek out *Friendships in Gay Spaces* and doing so resulted in varied outcomes. On the positive side, Philip was able to *Structure his Retirement* and cultivate *Valued Intimate Relationships* which motivated him to return to gay spaces for relationship building. Yet, Philip also encountered *Judgment and Ageism* in select gay spaces which perpetuated his cycle of fear.

The aforementioned functions of MAXQDA 12 help to establish a rationale for how researchers can use the program to assist with securing, organizing, exploring, interpreting, and integrating qualitative data (Davidson and Di Gregorio, 2011). Additionally, qualitative social work research is often collaborative and researchers may rely on digital tools to support collaboration between members of their research teams.

MAXQDA 12 can support multiple coders; however, there are some notable limitations that bear mentioning. On the positive side, MAXQDA 12 is compatible with windows and iSO devices; therefore, projects can be seamlessly transferred between researchers despite their operating system. This is a unique affordance of MAXQDA 12 as other QDASs (i.e. NVivo and Atlas.ti) have historically functioned on a single operating system. Although MAXQDA 12 is compatible with different operating systems it is not compatible with other QDAS programs, thus, limiting collaboration between MAXQDA users. In addition to this, MAXQDA 12 may not be an optimal program for research teams that need to work synchronously in online forums. MAXQDA 12 does not support real-time collaboration and research teams that are comprised of researchers in widespread geographic regions may not benefit as much from the collaborative functions of MAXQDA 12. Consequently, researchers that plan to use QDAS to support real-time collaboration, via distance, may find cloud-based systems such as Dedoose more appropriate for their research goals. Unlike MAXQDA 12, cloud-based QDAS can support synchronous collaboration of multiple coders despite geographical location.

Conclusion

Even with the rapid growth of digital tools for qualitative research there continues to be a lack of clarity in terms of how QDAS is applied in the extant literature on qualitative studies (Paulus et al., 2015; Woods et al., 2016). This paper seeks to address this noted gap in the literature. Bringer et al. (2004) argue that QDAS improves the rigor of qualitative studies by maximizing transparency. Yet, Leitch and Oktay (2016) point out that without proper education on QDAS, qualitative researcher risk using the programs improperly, thus, leading to misrepresentation of data. The purpose of this paper was to demonstrate the utility of MAXQDA 12 in streamlining the research process. It was found that having a single platform to support several analytic activities (i.e. coding, memo writing, and diagramming) created a systematic and organized approach to working with qualitative data. MAXQDA 12 is not a perfect program and qualitative researchers need to evaluate the affordances and constraints of various programs in conjunction with their research goals before selecting one to support their projects.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

Bringer JD, Johnson LH and Brackenridge CH (2004) Maximizing transparency in doctoral thesis1: The complexities of writing about the use of QSR*NVIVO within a grounded theory study. *Qualitative Research* 4(2): 247–265.

Charmaz K (2014) *Constructing Grounded Theory*, 2nd ed. Thousand Oaks, CA: Sage.

Council on Social Work Education (2008) Educational policy and accreditation standards. Available at: http://www.cswe.org/File.aspx?id=13780 (accessed 19 January 2017).

Davidson J and di Gregorio S (2011) Qualitative research and technology: In the midst of a revolution. In: Denzin NK and Linclon YS (eds) *The SAGE Handbook of Qualitative Research*. Thousand Oaks, CA: Sage, pp. 629–643.

Drisko JW (2016) Teaching qualitative research key content, course structures, and recommendations. *Qualitative Social Work* 15(3): 307–321.

Gilbert L (2002) Going the distance ''closeness'' in qualitative data analysis software. *International Journal of Social Research Methodology* 5(3): 215–228.

Gilbert LS, Jackson K and di Gregorio S (2014) Tools for analyzing qualitative data: The history and relevance of qualitative data analysis software. In: Spector JM, Merrill MD, Elen J, et al. (eds) *Handbook of Research on Educational Communications and Technology*. New York: Springer, pp. 221–236.

Kong TSK, Mahoney D and Plummer K (2002) Queering the interview. In: Gubrium JF and Holstein JA (eds) *Handbook of Interview Research*. Thousand Oaks, CA: Sage, pp. 239–258.

Leitch J and Oktay J (2016) A dual instructional model for computer-assisted qualitative data analysis software integrating faculty member and specialized instruction: Implementation, reflections, and recommendations. *Qualitative Social Work* 15(3): 392–406.

Newman A and McNamara Y (2016) Teaching qualitative research and participatory practices in neoliberal times. *Qualitative Social Work* 15(3): 428–443.

Paulus TM, Lester JN and Dempster PG (2014) *Digital Tools for Qualitative Research*. Thousand Oaks, CA: Sage.

Paulus T, Woods M, Atkins DP, et al. (2015) The discourse of QDAS: Reporting practices of ATLAS.ti and NVivo users with implications for best practices. *International Journal of Social Research Methodology* 20(1): 35–47.

Shaw IF (2003) Ethics in qualitative research and evaluation. *Journal of Social Work* 3(1): 9–29.

Woods M, Paulus T, Atkins DP, et al. (2016) Advancing qualitative research using qualitative data analysis software (QDAS): Reviewing potential versus practice in published studies using ATLAS.ti and NVivo, 1994–2013. *Social Science Computer Review* 34(5): 597–617.