

ORIGINAL ARTICLE

Research methodologies in genetic counseling: Grounded theory

Kristen Fishler Malone¹  | Nikkola Carmichael² ¹Munroe-Meyer Institute for Genetics & Rehabilitation, University of Nebraska Medical Center, Omaha, Nebraska, USA²Medical Sciences and Education, Boston University Chobanian & Avedisian School of Medicine, Boston, Massachusetts, USA

Correspondence

Nikkola Carmichael, Medical Sciences and Education, Boston University Chobanian & Avedisian School of Medicine, Boston, MA, USA.

Email: nikkola@bu.edu

Kristen Fishler Malone, Munroe-Meyer Institute for Genetics & Rehabilitation, University of Nebraska Medical Center, Omaha, NE, USA.

Email: kristen.fishler@unmc.edu

Abstract

Grounded theory was first described by Glaser and Strauss (1967, *The discovery of grounded theory: Strategies for qualitative research*. Aldine) as the “discovery of theory from data,” and describes a group of related methodologies that share key elements of study design and data analysis. Since its inception, grounded theory has evolved into several subtypes with different philosophical underpinnings, the most common of which are post-positivism and constructivism. In post-positivist interpretive frameworks, research is guided by a series of rigorous and logically related steps to identify a single objective underlying reality. In constructivist interpretive frameworks, the researcher strives to understand the meaning participants make of a phenomenon within their social and historical context, recognizing that their own position and perspectives shape their interpretation of their participants' experiences. Grounded theory studies include multiple stages of coding, concurrent collection and analysis of data, constant comparative data analysis, theoretical sampling, and memo-writing to capture researcher reflections and evolving theoretical ideas. The outcome of the study should be a substantive theory that is grounded in the data and describes the phenomenon being studied. Publications relevant to the genetic counseling profession have used a grounded theory approach to investigate a range of topics including patient experiences, professional issues, and genetic counseling education. This article describes the theoretical underpinnings and defining characteristics of grounded theory, provides an overview of post-positivist and constructivist grounded theory approaches, and outlines key elements to consider when conducting and evaluating grounded theory research.

KEYWORDS

education, genetic counseling, grounded theory, methodology, qualitative research, research

1 | INTRODUCTION

Grounded theory is a research methodology that has been used for more than half a century to investigate how individuals or specific

social groups experience a phenomenon of interest. The defining feature of grounded theory is the development of a substantive theory to enhance our understanding of the world. Within the genetic counseling literature, grounded theory has been used to investigate

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2025 The Author(s). *Journal of Genetic Counseling* published by Wiley Periodicals LLC on behalf of National Society of Genetic Counselors.

a range of topics, including patient experiences, professional issues, and genetic counseling education. Two prior articles (Grubs & Piantanida, 2010; McAllister, 2001) have described the ways in which grounded theory methodologies may be applied in genetic counseling research. Given that many genetic counselors do not have extensive training in qualitative methodologies, we aim to provide an updated overview of grounded theory and detail strategies to assist those who are considering using this methodology in their research, or who are evaluating research using this methodology.

2 | HISTORY OF GROUNDED THEORY

Grounded theory was first introduced in 1967 by American Sociologists Barney Glaser and Anselm Strauss, with publication of *The Discovery of Grounded Theory: Strategies for Qualitative Research*. This publication was created in protest amidst a methodological climate in which qualitative work was often only deemed legitimate when used as a precursor to quantitative studies. Glaser and Strauss defined grounded theory as the “discovery of theory from data,” which was a novel contrast to deductive quantitative approaches that saw the purpose of research as testing theoretical assumptions. They also introduced the “constant-comparison method,” in which data collection and analysis occur in tandem (in contrast to the separation of data collection and analysis, which characterized other qualitative and quantitative methods at the time). Their work ultimately led to the development of rigorous and high-quality metrics for qualitative research (Glaser & Strauss, 1967; Kelle, 2019).

Although Glaser and Strauss collaborated on the initial development of grounded theory, they ultimately disagreed about the procedures and philosophy of the methodology. Subsequent researchers developed a range of approaches to grounded theory. Strauss worked with Juliet Corbin, one of their former students at the University of California San Francisco (UCSF), to create a structured approach to grounded theory based on the theoretical perspective of symbolic interactionism; this is a sociological perspective focused on understanding the processes through which people make meaning of social interactions and the subjective meaning they ascribe to objects, behaviors, or events (Chamberlain-Salaun et al., 2013; Charmaz, 2025; Clarke, 2005). In the 1990s, Kathy Charmaz, another a former doctoral mentee at UCSF who believed that the original formulations of grounded theory did not reflect evolving epistemological advances in the social sciences, challenged the idea that grounded theory could unearth an objective singular reality; she instead proposed a set of guidelines for conducting qualitative research called constructivist grounded theory, so-named to “acknowledge the researcher's involvement in the construction and interpretation of the data” (Charmaz, 2025, p. 13). Adele Clarke, another mentee from UCSF, coined the term “situational analysis” as an extension of constructivist grounded theory framed within a postmodern perspective. Situational analysis incorporates three mapping strategies (situational maps, social worlds/arenas maps, and positional maps) and detailed memo-writing about the maps (Clarke, 2021). The *SAGE Handbook of*

What is known about this topic

Grounded theory is a research methodology which was originally used to investigate phenomena for which there was little or no existing theory. Since its origins, this methodology has been expanded to address a wide range of topics and research applications regardless of the amount of existing literature. Within the genetic counseling literature, grounded theory has been used to investigate a range of topics including patient experiences, professional issues, and genetic counseling education.

What this paper adds to this topic

We aim to provide an overview of grounded theory for genetic counselors considering using and/or evaluating this methodology. We describe the theoretical underpinnings and defining characteristics of grounded theory research, an overview of post-positivist and constructivist grounded theory approaches, and key elements to consider when evaluating manuscripts using grounded theory.

Current Developments in Grounded Theory (Bryant & Charmaz, 2019) highlights other recent adaptations of grounded theory.

Although grounded theory originated in the field of sociology, this methodology can be seen in all fields and disciplines (Merriam et al., 2025). Grounded theory approaches have been integrated into other methods of qualitative research, but not all qualitative research culminates with the development of a substantive theory, which is a defining characteristic of grounded theory. One promising avenue for the application of grounded theory is in mixed methods research. Mixed methods refers to the systematic integration of quantitative and qualitative data in a single study to provide a more holistic account of the studied phenomenon than either strand can produce alone (Creswell & Plano Clark, 2018). These projects can either consist of concurrent quantitative and qualitative data collection, or one method providing the foundation for the other (Guetterman et al., 2019; Johnson & Walsh, 2019). While it is beyond the scope of this paper to elaborate on the use of grounded theory in mixed methods research, genetic counselors may want to consider this methodology when designing mixed methods studies.

3 | AUTHORS' EXPERIENCE WITH GROUNDED THEORY

Kristen Fishler Malone is an inpatient genetic counselor, researcher, and educator in a genetic counseling graduate program. At the time of writing this manuscript, she has taken graduate-level coursework about qualitative research methods and has experience teaching qualitative methods to PhD students and master's level genetic

counseling students. To date, her education has focused on post-positivist approaches to grounded theory, influenced by the works of John W. Creswell. Nikkola Carmichael is a researcher and educator in a genetic counseling graduate program. Her dissertation and current research focus on the training experiences of genetic counseling students with marginalized identities, primarily influenced by Kathy Charmaz's constructivist grounded theory framework.

We both continue to deepen our understanding of grounded theory as we conduct our own research and work with students as research mentors. Given our engagement with genetic counseling training programs, our aim with this article is to provide a resource for students and novice researchers interested in exploring the use of a grounded theory framework for their research.

4 | PHILOSOPHICAL POSITIONING OF THE RESEARCHER

Interpretive frameworks are paradigms or beliefs that a researcher uses to guide the practice of research and interpret the results. In grounded theory approaches, positivist/post-positivist and constructivist are two common interpretive frameworks. Each of these frameworks is based on specific ontological and epistemological philosophical beliefs. Ontology describes the nature of reality or what it is possible to know about reality. A researcher who has a positivist/post-positivist orientation believes that a rigorous approach to research can lead to the identification of a single, objective reality; post-positivists accept that this reality may be imperfectly understood. In contrast, a researcher with a constructivist orientation recognizes the existence of multiple subjective realities. Epistemology describes the nature of knowledge and how knowledge is acquired. While a positivist/post-positivist strives for valid, reliable, and precise measurements, a constructivist sees knowledge as being subjective and co-constructed in the interactions between researchers and participants (Babchuk & Boswell, 2023; Creswell, 2007; Creswell & Poth, 2025; Wainstein et al., 2022). When conducting a grounded theory study, the researcher should select the interpretive framework that is best suited to their philosophical positioning and research question.

Post-positivism is exemplified by the classic or traditional approach championed by Glaser, and to a somewhat lesser extent by systematic grounded theory methods developed by Corbin and Strauss. In post-positivist interpretive frameworks, research is guided by a series of rigorous and logically related steps with the aim of getting as close as possible to describing the underlying truth. Gurasashvili et al. (2023) include an in-depth explanation of why they chose a post-positivist research paradigm in their study investigating parents' experiences receiving a "no primary finding" genome sequencing result for their child with a rare disease.

The constructivist approach to grounded theory was advanced by the work of Charmaz, and later with Anthony Bryant, who highlighted that each participant's understanding of their experiences is based on their social and historical context, and the researcher's

interpretation of the participant's experience is shaped by their position and perspectives. The data are therefore co-constructed by the researchers and participants and describe one reality among many. Constructivist grounded theory is well-suited to research related to social justice issues because identities and social conditions influence how each individual experiences and interprets events (Charmaz, 2025; Creswell & Poth, 2025). Carmichael et al. (2024a) describe how a constructivist approach aligned with their exploration of Black, Indigenous, and People of Color (BIPOC) students' paths to entering genetic counseling training.

5 | THEORY DEVELOPMENT

Rather than describing a phenomenon that is being investigated, grounded theory studies build a substantive theory from the data to enhance our understanding of the world and provide predictions for the future. The theory is an abstract explanation or understanding of a process, grounded in the data (Birks & Mills, 2023; Creswell & Guetterman, 2024; Tie et al., 2019; Urquhart, 2019). Research that aims to test an existing theory is therefore not appropriate for a grounded theory approach. Post-positivist studies focus on one or two core categories, while Charmaz cautions that this approach can limit the perspectives represented in the analysis (Charmaz, 2025; Urquhart, 2019). Many grounded theory studies fall somewhere on the continuum between the two orientations.

The language used to describe the development of theories differs between post-positivist and constructivist frameworks and is reflective of their underlying philosophies. Within a post-positivist orientation, theories may be described as being discovered or emerging from the data, reflecting the ontological and epistemological beliefs that the researcher is working to uncover a single underlying truth (Kelle, 2019). Researchers who have a constructivist orientation believe that the meaning participants make of a phenomenon is influenced by their lived experiences, social environments, and interactions with the researcher, and see themselves as playing a role in the creation and interpretation of the data. They would therefore not describe theories as emerging, but as being constructed, and any conclusions from the research are viewed as suggestive and open for modification based on additional data or changing social circumstances (Charmaz, 2025; Creswell & Guetterman, 2024).

Member checking, or seeking participant feedback regarding the credibility and interpretation of the findings, is aligned with a post-positivist paradigm and allows participants the opportunity to judge the accuracy of the interpretation of the researcher(s) (Creswell & Poth, 2025; Varpio et al., 2017). It can be performed to double check the wording in transcription or to validate the researcher's interpretations of the data via individual conversations with participants or through a focus group at the conclusion of the study (Varpio et al., 2017). In grounded theory research using a constructivist paradigm, the researcher is actively involved in theory construction; an incongruity between the researcher's and participant's interpretations is not problematic, as long as

the researcher is reflexive in their analysis of the data and shares their assumptions with the reader (Braun & Clarke, 2025; Varpio et al., 2017).

While many published studies may be described by the authors as using a grounded theory framework, they often fall short of developing a substantive theory (also known as a model, framework, or conceptual schema—see Guetterman et al. (2019) for an exploration of the use of these terms). Qualitative approaches which do not culminate in a theory (or an outcome with similar terminology) and do not use the data collection and analysis methods associated with grounded theory may be more appropriately described as descriptive studies using thematic analysis. Similar to grounded theory, thematic analysis methods may lie within post-positivist (coding reliability) and constructivist (reflexive thematic analysis) paradigms (Braun & Clarke, 2022). Alternatively, for researchers who are aligned with a constructivist framework, interpretive phenomenology uses methods of data collection and analysis that are similar to constructivist grounded theory, but culminate in a narrative describing the meaning participants make of a phenomenon, rather than a substantive theory (Burns et al., 2022). Debate is currently ongoing regarding the challenges in meeting the requirements for grounded theory, especially in situations where research efforts may be limited due to time and funding (Timonen et al., 2018).

6 | CHARACTERISTICS OF GROUNDED THEORY RESEARCH

Although grounded theory has evolved into multiple methodologies, they share key components. In addition to the development of a substantive theory, common elements of grounded theory research include multiple stages of coding, concurrent collection and analysis of data, constant comparative data analysis, theoretical sampling, memo-writing to capture the researcher's reflections and evolving theoretical ideas, and the need for theoretical sensitivity (Birks & Mills, 2023; Creswell & Guetterman, 2024). Here, we will provide an overview of the main components of a grounded theory study. We aim to distinguish which elements are characteristic of grounded theory studies in general, and the ways in which a post-positivist orientation (Strauss and Corbin) would differ from a constructivist orientation (Charmaz). The descriptions are not intended to be exhaustive, but to provide the researcher with a starting point from which they can further educate themselves about the framework that is best suited to their philosophical positioning and their research question. At the conclusion of the article, additional resources are provided for researchers interested in implementing a grounded theory methodology.

6.1 | Literature review

The role of the literature review in grounded theory is influenced by the philosophical framework. Glaser's original work argued that

the literature should not be reviewed until after data has been collected, to prevent preconceptions from influencing the researcher and to allow for emergent concepts to come from the data (Glaser & Strauss, 1967). This view has generally not been shared by other grounded theorists, who not only recognized the importance of the literature review in providing a justification for the study, but also found it unlikely that an experienced researcher could remain unaware of and uninfluenced by existing literature. However, they agreed with Glaser that the researcher should take care not to allow pre-existing literature to influence the data analysis; ideas should arise inductively from the data and not be ignored just because they don't fit with a preconceived idea. Strauss and Corbin describe pre-existing literature as a source of "sensitizing concepts," or ideas which serve as points of departure for designing the data collection instrument. They believed pre-existing literature should be a source of ideas to guide inquiry, but should not be treated as definitive concepts (McGhee et al., 2007; Thornberg & Dunne, 2019). Within a constructivist grounded theory approach, researchers are encouraged to engage with the literature, as this provides points of departure for creating the interview guide, asking follow-up questions during the interview, and analyzing the data. This engagement should be critical and reflective, guiding the research but not imposed on the data that is collected (Charmaz, 2025).

With either approach, reviewing the literature should be an ongoing process as the research progresses. The initial literature review, conducted before beginning data collection, is crucial for identifying a gap in the literature and developing an appropriate plan for data collection. During data collection and analysis, the researcher may expand this literature review based on ideas that arise. A final literature review as the study is wrapping up will help place the emerging theories in the context of existing literature (Charmaz, 2025; McGhee et al., 2007; Thornberg & Dunne, 2019).

6.2 | Reflexivity

Reflexivity in grounded theory is an important means of identifying and acknowledging the ways in which the researcher may be impacting the research process and analysis. Reflexive practices are intended to increase the transparency or trustworthiness of the research, and to identify ways in which the researcher exerts influence throughout the study: designing the study, interacting with participants during data collection, analyzing and interpreting the data, and writing the results. These influences can be due to a myriad of factors, such as the philosophical orientation of the researcher, aspects of the researcher's identity or lived experiences, and their position relative to the research topic and participants (Gentles et al., 2014). In the aforementioned study by Gurasashvili et al. (2023), the authors include a description of their research team's professional expertise regarding genomics and working with families impacted by rare disease.

The purpose of reflexive practices differs between post-positivist and constructivist approaches. Within a post-positivist

context, the aim is to neutralize the influence of the researcher, and the researcher's biases do not need to be expressed (Creswell & Poth, 2025; McGhee et al., 2007; Mruck & Mey, 2019). In constructivist approaches, reflexivity involves a deep reflection and acknowledgment throughout the research process of the researcher's biases and experiences and how they may inform the research approach and/or data analysis. The researcher's positionality and perspectives are seen as inherent in the construction of data, and the purpose of reflexivity is to acknowledge their influence, not neutralize them (Charmaz, 2025).

While reflexivity should be integrated throughout the research process, researchers are not obliged to publicly disclose personal details of their lives (Charmaz, 2025). This is a particular consideration when the relevant identities may be potentially stigmatizing, in which case the authors can be selective about which identities to disclose, or can disclose them in aggregate. For example, O'Sullivan et al. (2023), in a study describing experiences of LGBTQ+ genetic counseling students during the admissions process, reported broadly that the research committee included members of the LGBTQ+ community. Carmichael et al. (2024b) specifically describe the race and age of the interviewer who interacted with the BIPOC student participants, but more generally describe the rest of the research team as including individuals "with diverse backgrounds including BIPOC, immigrant, first-generation college student, bilingual, and LGBTQ+ community affiliations."

6.3 | Memoing

Memo-writing is a key component of grounded theory research and is approached similarly when using post-positivist and constructivist lenses. Memos are informal notes that help the researcher process the data, identify important topics for further exploration, and engage in reflexivity. Memo-writing should be integrated throughout the research process, as a means of recording reactions to individual interviews and the ideas they generated for the researcher, thoughts related to codes and categories, or abstract ideas about the data and emerging themes. Early memos should be revisited over time to track the evolution of codes and theme development. As the research progresses and more data is collected, memos grow in complexity and may form the basis of theory (Charmaz, 2025; Corbin & Strauss, 2014; Creswell & Guetterman, 2024; Creswell & Poth, 2025; Miles et al., 2020). Memoing serves as a "digital audit trail" for documenting the thought process of the researcher and clarifying their understanding of the data over time (Richards et al., 2021; Silver et al., 2018). Furthermore, by using memos to engage in reflexivity, this process makes explicit the ways in which the researcher is responding to the data, their underlying assumptions, and the ways in which these may be influencing the analysis (Charmaz, 2025). Memos can be added to documents and/or audio files in most electronic coding software.

6.4 | Data collection

Data for grounded theory studies can be derived from many types of sources, both pre-existing (extant) and generated for the purpose of the study (elicited). Individual interviews are the most common source of data in grounded theory, but other sources, such as public records, mass media, literature, journals, written responses to questions, and focus groups, may be used. These sources are not selected at random but are purposively selected to aid in the development of theory (Charmaz, 2025).

6.4.1 | Interview procedures

Data for qualitative research is most often derived from one-on-one semi-structured interviews. The researcher follows an interview guide consisting of broad, open-ended questions and more focused follow-up questions, aiming for a conversational style. While this guide serves as a framework for the interview, the interviewer follows up on any unanticipated areas of inquiry. The goal is to gather rich data, following leads as they arise and adapting the data collection instrument as needed (Charmaz, 2025).

How the participant perceives the interviewer likely impacts what they are willing to share. Many of the skills that genetic counselors use to establish rapport and communicate with patients transfer to conducting interviews (MacFarlane et al., 2014). The interviewer should allow the participant to set the pace, give them time to settle into the interview before asking sensitive questions, use verbal and non-verbal cues to express interest in what the participant is saying, and validate their perspectives. If a question is potentially intrusive, the researcher should check in with the participant and give them the option to stop the interview or forgo answering the question. Charmaz advises researchers to take on the role of an "interested learner" rather than a "distant investigator" (Charmaz, 2025).

The focus of the interview differs among the various grounded theory frameworks. In a post-positivist approach, the researcher would focus on information about chronology, events, and the participant's perceptions of the situation being discussed. A constructivist approach would focus on exploring participants' understanding of events, assumptions, and implicit meanings. Constructivists also consider how the interviewer's and participant's social identities (age, race, gender, education level, professional status, etc.) influence their interactions during the interview (Charmaz, 2025).

6.4.2 | Theoretical sampling

Theoretical sampling is used to expand upon and delineate categories or themes so that the theory can fully explain the relationships between concepts (Timonen et al., 2018). It involves purposively

seeking out individuals or data to further develop or refine an initial theory and to ensure that the categories are fully developed. This does not always mean that the population has demographic diversity, that the sample size includes a certain number of participants, or that the researcher intentionally selects individuals with different demographic characteristics (Charmaz & Thornberg, 2021; Hood, 2007; Timonen et al., 2018). When using a post-positivist approach, Corbin and Strauss recommend initial purposive sampling of participants who have experienced the phenomenon of interest; these data are used to develop an initial theory. Once this theory is generated, a more heterogeneous sample is recruited to explore variations on the theory and to confirm or deny the details of the theory (Corbin & Strauss, 2014). When using a constructivist approach, diverse perspectives are purposely sought from the outset. Participants with different backgrounds and experiences are included so that the developing theory can be compared to their perspectives with the goal of working toward theoretical data saturation across themes (Charmaz & Thornberg, 2021; Hood, 2007). Heiniger et al. (2015) describe the use of theoretical sampling to maximize heterogeneity in their study of psychological adaptation to an increased risk of breast cancer; as interviews proceeded, they purposively selected participants for diversity of marital status, parity, recency of genetic test result, and uptake of risk-reducing surgery.

6.5 | Data analysis

In grounded theory, data collection and analysis proceed in tandem, meaning that the first interview should be coded before the second interview is conducted, the second interview should be coded before the third interview is conducted, and so forth. This iterative process enables the researcher to identify gaps in the data and continually modify the interview guide and participant recruitment to fill these gaps. While we have separated out topics related to analysis below, this is not intended to imply that data analysis occurs separately from the data collection described above.

6.5.1 | Coding

Across all grounded theory approaches, coding begins by assigning labels to text or visual data to create categories of information. Codes can be conceptual or verbatim and should be developed in close connection with the study's research questions based on processes, actions, or interactions of participants with the phenomenon. At first, researchers may develop a list of 20 or more codes that match segments of text. Throughout the coding process, similar codes are grouped together to form categories, which are then compared and interpreted to answer the research question. These categories may become themes, which are used to develop theory (Creswell & Poth, 2025; Merriam et al., 2025). Researchers using grounded theory methods should be intentional in their selection of

a coding strategy and explicitly describe their coding phases in the methods section of the manuscript. Belgrave and Seide (2019) have written a chapter comparing the approaches to coding and vocabulary used by the major branches of grounded theory methodology.

Most grounded theory methodologies use a three-phase coding process. In a post-positivist grounded theory approach, Corbin and Strauss's coding strategy includes open, axial, and selective coding. Codes and categories "emerge" (or are created) from the data. Open coding is the process of identifying important data (which can be a line, a sentence, or a section of the transcript) and labeling it with a code. The second stage, axial coding, interconnects the categories identified during open coding by identifying one or a few codes to link the categories together. This may include analysis of a central phenomenon, causal conditions that influence the phenomenon, specific strategies that result from the central phenomenon, conditional context, and intervening conditions that influence the strategies, as well as delineating the consequences or outcomes of the strategies for the phenomenon. The final stage, selective coding, is focused on building a story or explanation that connects the categories. The researcher develops hypotheses that relate or describe the categories, forming the basis of the substantive theory. Researchers may create a conditional matrix (diagram) that visualizes the range of conditions and consequences related to the phenomenon, although this is not performed in many studies (Corbin & Strauss, 2014; Creswell & Poth, 2025; Kelle, 2019). Carrion et al. (2022) provide a detailed explanation of this approach to analysis in their study investigating the experiences of parents of children with 22q11.2 deletion syndrome with psychiatric genetic counseling, and constructed a visual representation of their theoretical model.

In a constructivist approach, Charmaz's three phase coding strategy includes initial, focused, and theoretical coding. During the initial coding phase, Charmaz recommends using gerunds for code names (verb-ing) to capture the process of what is occurring. Related codes are grouped into categories and subcategories, and then the relationships between these categories are used to develop theories, with a focus on understanding the process or phenomenon that is occurring. Compared to the post-positivist approaches of Glaser, Corbin, and Strauss, Charmaz does not support the use of axial coding or focusing on a single core category, as this involves applying an analytic frame that may limit the researcher's vision of the data. Furthermore, as Charmaz does not believe that preconceptions can be erased, she highlights the need to consistently engage in reflexive practice to recognize when these are shaping the analysis. The outcome of a constructivist coding approach emphasizes understanding rather than explanation and demonstrates a range of meanings about the participants' experiences (Charmaz, 2025; Creswell & Poth, 2025; Kelle, 2019). Meadows and Padamsee (2021) describe their constructivist coding approach in their investigation of how financial constraints influence the uptake of genetic counseling, genetic testing, and risk-management decisions among women at elevated risk for breast cancer.

Many qualitative studies describe the use of a "second coder," which refers to having more than one person code the same data,

usually with the intent of increasing the rigor and validity of the results. Whether a second coder is needed for a grounded theory study depends on the research goals, epistemological stance, and type of rigor for which the author is aiming. In both constructivist and post-positivist frameworks, a single coder may suffice; the importance is placed on how the researcher is using reflexive practices to identify the ways in which their own perspectives are influencing the analysis. In constructivist approaches, the researcher's interpretations are seen as integral to the process; given that the codes are constructed through the researcher's engagement with the data, different coders would be expected to construct different codes. Memo-writing is used as a means of making the researcher's assumptions visible and to avoid preconceiving the data (Charmaz, 2025).

Having a second coder may be beneficial for students or novice researchers, or for collaborative or team-based projects. For novice researchers, reviewing the coding structure with a more seasoned researcher has value as a learning experience and for developing theoretical sensitivity. If more than one person will be conducting coding and analysis, each person should independently code the data and write memos, and then these can be compared with a constant comparative approach (Charmaz, 2025; Linden & Tompkins, 2021).

6.5.2 | Constant comparison

The constant comparison method of data analysis was originally described by Glaser and Strauss and is used in grounded theory research to develop a substantive theory. The researcher begins by focusing on one data source, such as an interview transcript, and compares statements made by the participant within that interview; as data collection proceeds, statements by subsequent participants are compared to these and to each other. As codes are created, they are compared across previously coded data. Comparisons may also be made at a more conceptual level, with the eventual purpose of identifying similarities and differences across the data and using these insights to refine concepts and (ultimately) theory. Using the constant comparison method for data analysis sets grounded theory apart from other descriptive analyses and is a defining feature of this method (Charmaz, 2025; Merriam et al., 2025; Tie et al., 2019).

6.5.3 | Theoretical sensitivity

Another defining feature of grounded theory is that the theory develops from the data, and that pre-existing theories are not imposed on the data. Glaser and Strauss described the researcher's insight into the data as "theoretical sensitivity" (also the title of Glaser's influential 1978 text). Theoretical sensitivity involves moving beyond simply describing the phenomena being studied to seeing what is meaningful in the data and identifying patterns and abstract relationships among the phenomena. This sensitivity is achieved through

deep engagement with the data, examining the experiences of participants from multiple vantage points and considering the possible connections between them (Birks & Mills, 2023; Charmaz, 2025; Glaser, 1978; Kelle, 2019). Grounded theorists have long debated whether familiarity with pre-existing literature increases theoretical sensitivity by attuning the researcher to patterns in the data or limits the analysis due to the imposition of preconceived ideas (see our section above regarding the literature review).

6.5.4 | Defining the end point of a study

The term "saturation" was originally used by Glaser and Strauss when describing the end point of a grounded theory study and has since been applied to many other qualitative approaches. Saturation is understood as being achieved when new data does not add insights or additional properties to the emerging theory or core categories (Aldiabat & Le Navenec, 2018; Glaser & Strauss, 1967). The question of whether theories, data, or themes can ever be saturated has been debated within the qualitative methodology literature, as additional data always has the potential to lead to new discoveries (Dey, 1999; O'Reilly & Parker, 2013; Wray et al., 2007). Corbin and Strauss, within their post-positivist approach, define "theoretical saturation" as the point at which data collection does not identify any additional relevant data for the main categories or themes (Corbin & Strauss, 2014). With a constructivist approach, Charmaz describes categories as saturated when "you have defined, checked, and explained relationships between categories and the range of variation within and between your categories" (Charmaz, 2025).

When beginning with a more homogeneous sample, saturation may seem to be achieved more quickly than with a diverse sample. However, within either a post-positivist or a constructivist framework, theoretical sampling should be used to develop theory and ensure that the study is not merely descriptive. Charmaz (2025) recommends assessing saturation not by simply looking for recurring patterns, but by considering which comparisons may be made within and between categories, how these comparisons illuminate the theoretical categories, and what conceptual relationships are evident. For student projects (or other projects with limited time and resources), focusing on a well-delineated research question within a specific population increases the likelihood of reaching theoretical saturation.

Theoretical sufficiency is a term which implies that enough data has been obtained to understand the phenomenon of interest well enough so that a theory can be built. Some scholars have suggested that this term is more fitting than "theoretical saturation" to describe the endpoint of a grounded theory study due to the potential impractical nature of not "finding any new information" (Braun & Clarke, 2022; Dey, 2003). Instead, theoretical sufficiency relies on having a level of knowledge that allows for development of a theory that is both grounded in the data and insightful. Tomozawa et al. (2024) describe how they determined when they had reached "theoretical sufficiency" in their study investigating experiences

with empathy in genetic counseling for hereditary breast and ovarian cancer in Japan.

Many research methodologists have commented on the number of interviews needed for grounded theory research, which depends on the question being investigated and the experience of the interviewer (Charmaz, 2025). Post-positivist methodologists have quoted a range between 15 and 60 interviews (Babchuk & Boswell, 2023; Creswell & Poth, 2025), while Charmaz (2025) does not provide specifics on the expected sample size.

7 | APPLICATIONS OF GROUNDED THEORY IN GENETIC COUNSELING RESEARCH

Grounded theory has been used in genetic counseling research published in the *Journal of Genetic Counseling* as well as other journals. While most grounded theory studies in genetic counseling appear to use interviews as their primary source of data, other data sources have also been described. Focus groups have been analyzed using both post-positivist and constructivist approaches. For example, Zhong et al. (2020) analyzed data from 18 genetic counselors in five focus groups to identify the ways in which they managed and communicated uncertainty, and Carmichael et al. (2020, 2021a, 2021b) conducted 13 focus groups with 32 genetic counselors who identified with a minority racial or ethnic group to characterize their experiences during their training. Grounded theory has also been used as part of a mixed-methods study; for example, Withers et al. (2019) used grounded theory to analyze the interview data from their mixed-methods study investigating the cultural beliefs about dementia and genetic testing among Mexicans and Mexican-Americans at risk for autosomal dominant Alzheimer's disease. Recently, Hsieh et al. (2024) used grounded theory in a systematic literature review to create an analytical framework of the stakeholders in reproductive health contexts and their competing motivations.

Grounded theory approaches have also been implemented in longitudinal research studies. Godino et al. (2018) interviewed young adults before and after they underwent presymptomatic testing for familial cancer. Carmichael et al. (2024a, 2024b, 2024c) are conducting an ongoing multi-year study investigating the experiences of BIPOC genetic counselors during their training and into the early years of their professional life. In other fields, grounded theory has been combined with case studies (Dahwa, 2024) and Indigenous research methods (Sebeelo, 2024).

One of the stated objectives of grounded theory research is to create research that not only advances knowledge, but is also useful. Corbin and Strauss (2014) state that grounded theory research should produce significant findings that stimulate discussion and provide insights that can be used to develop policy or change practice. Charmaz (2025) stipulates that grounded theory research should offer interpretations that people can use in their

everyday lives and contribute to making a better world. This objective is well-aligned with the action-oriented nature of genetic counseling research, which is often focused on topics that have the potential to improve our profession or the care we provide to our patients. Genetic counselors should consider using grounded theory methodologies to investigate topics of relevance to them and the communities they serve, particularly when this research is oriented toward factors underlying patients' or genetic counselors' lived experiences.

8 | RESOURCES

While the goal of this article has been to introduce researchers to the key characteristics of grounded theory research, we recommend the following texts as good resources for those interested in conducting a study using a grounded theory methodology:

- Birks, M., & Mills, J. (2023). *Grounded theory: A practical guide*. SAGE Publications.
- Charmaz, K. (2025). *Constructing grounded theory* (3rd ed.). SAGE Publications.
- Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. SAGE Publications.
- Creswell, J. W., & Poth, C. N. (2025). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. SAGE Publications.

9 | HOW TO EVALUATE GROUNDED THEORY RESEARCH

Grounded theorists have provided guidelines about how to evaluate grounded theory research. Corbin and Strauss (2014) provide an extensive list of criteria that influence the credibility of grounded theory research, such as the methods of data collection and analysis, use of theoretical sampling and reflexivity, decision-making about whether data saturation was attained, the properties and dimensions of the categories, and the development of theory that is significant and resonates with the participants. Charmaz (2025) describes four criteria: credibility (does the researcher have sufficient data and is the analysis thorough enough to support the proposed theory?), originality (does the research offer new and significant ideas or concepts?), resonance (does the theory make sense and offer new insights to individuals who share the participants' circumstances?), and usefulness (does the research contribute to knowledge, have implications for further research, or contribute to making a better world?). Charmaz and Thornberg (2021) delve further into what constitutes quality grounded theory research among these and other grounded theory methodologies.

When providing feedback on manuscripts that describe the use of a grounded theory methodology, a reviewer should consider

whether the elements described in this article are present. Grounded theory describes an entire methodology, not just coding procedures, and this should be reflected in the methods section. The most important elements to consider are as follows:

- Did the authors describe their philosophical orientation, and is the vocabulary used to describe the data analysis and results consistent with that orientation?
- How was the sample recruited and how were participants selected? What identities are represented (or missing from) the sample, and how does this affect the interpretation of the findings?
- Did the data collection occur simultaneously with data analysis, using a constant comparative approach? Did coding occur in multiple stages? Depending on the philosophical orientation and experience of the primary researcher, the use of a second coder may be appropriate.
- Did the study team engage in reflexive practices such as memoing? Did they reflect on how their own positionality, perspectives, or experiences influenced the research process?
- Did the researchers use theoretical sampling? How did they determine when or if theoretical saturation or sufficiency was achieved?
- Did the research result in a substantive theory? A visual model or core category may be appropriate depending on the philosophical orientation. Articles that use coding procedures to generate a description or narrative about a phenomenon may be more appropriately described as thematic analysis or interpretative phenomenology.
- Did the researchers compare their theory to existing literature and demonstrate how it advances knowledge or impacts practice?

We urge reviewers to recognize that genetic counseling students are engaging in important research that has significant implications for the profession and our patients, and that they are constrained by the logistics of completing these projects with the time and resources available during their training. For studies that do not achieve all elements of a grounded theory study, we would therefore suggest that reviewers provide constructive feedback about how to reframe the research using a more appropriate methodology rather than reject the work outright.

10 | CONCLUSION

While grounded theory methodologies are a good fit for topics of interest to the genetic counseling profession, many studies described as grounded theory fall short of including all the expected elements or developing a substantive theory. Researchers who plan to use a grounded theory approach to their research should take time before embarking on the project to consider their philosophical orientation, educate themselves about how the selected methodology impacts all aspects of the research process, and endeavor to develop a substantive theory.

AUTHOR CONTRIBUTIONS

Kristen Fishler Malone and Nikkola Carmichael contributed equally to this manuscript. Both contributed to the conceptualization, investigation, writing – original draft, writing – reviewing and editing, and project administration.

ACKNOWLEDGMENTS

We would like to acknowledge Dr. Wayne Babchuk, professor of practice at the University of Nebraska, Lincoln, for his critical review of this manuscript. Nikkola Carmichael's salary is funded in part by the Warren Alpert Foundation's Alliance to Increase Diversity in Genetic Counseling grant. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Warren Alpert Foundation.

CONFLICT OF INTEREST STATEMENT

Kristen Fishler Malone and Nikkola Carmichael declare that they have no conflicts of interest.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

ETHICS STATEMENT

Human studies and informed consent: No human studies were carried out by the authors for this article.

Animal studies: No non-human animal studies were carried out by the authors for this article.

ORCID

Kristen Fishler Malone  <https://orcid.org/0000-0001-6721-8598>

Nikkola Carmichael  <https://orcid.org/0000-0002-2999-8279>

REFERENCES

- Aldiabat, K. M., & Le Navenec, C.-L. (2018). Data saturation: The mysterious step in grounded theory methodology. *The Qualitative Report*, 23(1), 245–261. <https://doi.org/10.46743/2160-3715/2018.2994>
- Babchuk, W. A., & Boswell, E. (2023). Grounded theory. In R. J. Tierney, F. Rizvi, & K. Ercikan (Eds.), *International encyclopedia of education (fourth edition)* (pp. 107–122). Elsevier. <https://doi.org/10.1016/B978-0-12-818630-5.11013-9>
- Belgrave, L. L., & Seide, K. (2019). Coding for grounded theory. In A. Bryant & K. Charmaz (Eds.), *The SAGE handbook of current developments in grounded theory* (pp. 167–185). SAGE.
- Birks, M., & Mills, J. (2023). *Grounded theory: A practical guide*. SAGE Publications.
- Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. SAGE Publications.
- Braun, V., & Clarke, V. (2025). Reporting guidelines for qualitative research: A values-based approach. *Qualitative Research in Psychology*, 22(2), 399–438. <https://doi.org/10.1080/14780887.2024.2382244>
- Bryant, A., & Charmaz, K. (Eds.). (2019). *The SAGE handbook of current developments in grounded theory*. SAGE Publishing.
- Burns, M., Bally, J., Burles, M., Holtslander, L., & Peacock, S. (2022). Constructivist grounded theory or interpretive phenomenology? Methodological choices within specific study contexts.

- International Journal of Qualitative Methods*, 21, 1–13. <https://doi.org/10.1177/16094069221077758>
- Carmichael, N., Redlinger-Grosse, K., & Birnbaum, S. (2020). Conscripted curriculum: The experiences of minority genetic counseling students. *Journal of Genetic Counseling*, 29(2), 303–314. <https://doi.org/10.1002/jgc4.1260>
- Carmichael, N., Redlinger-Grosse, K., & Birnbaum, S. (2021a). Examining clinical training through a bicultural lens: Experiences of genetic counseling students who identify with a racial or ethnic minority group. *Journal of Genetic Counseling*, 31(2), 411–423. <https://doi.org/10.1002/jgc4.1506>
- Carmichael, N., Redlinger-Grosse, K., & Birnbaum, S. (2021b). Supporting a sense of inclusion and belonging for genetic counseling students who identify as racial or ethnic minorities. *Journal of Genetic Counseling*, 30(3), 813–827. <https://doi.org/10.1002/jgc4.1381>
- Carmichael, N., Zayhowski, K., & Diaz, J. S. (2024a). BIPOC students' paths to genetic counseling: Results from a longitudinal qualitative study. *Journal of Genetic Counseling*, 34, e1877. <https://doi.org/10.1002/jgc4.1877>
- Carmichael, N., Zayhowski, K., & Diaz, J. S. (2024b). Deconstructing imposter syndrome among BIPOC genetic counseling students: Insights from a longitudinal qualitative study. *Journal of Genetic Counseling*, 34, e2004. <https://doi.org/10.1002/jgc4.2004>
- Carmichael, N., Zayhowski, K., & Diaz, J. S. (2024c). The impact of cohort relationships on BIPOC genetic counseling students: Results from a longitudinal qualitative study. *Journal of Genetic Counseling*, 34, e1895. <https://doi.org/10.1002/jgc4.1895>
- Carrion, P., Semaka, A., Batallones, R., Slomp, C., Morris, E., Inglis, A., Moretti, M., & Austin, J. (2022). Reflections of parents of children with 22q11.2 deletion syndrome on the experience of receiving psychiatric genetic counseling: 'awareness to act'. *Journal of Genetic Counseling*, 31(1), 140–152. <https://doi.org/10.1002/jgc4.1460>
- Chamberlain-Salaun, J., Mills, J., & Usher, K. (2013). Linking symbolic interactionism and grounded theory methods in a research design: From Corbin and Strauss' assumptions to action. *SAGE Open*, 3(3), 215824401350575. <https://doi.org/10.1177/2158244013505757>
- Charmaz, K. (2025). *Constructing grounded theory* (3rd ed.). SAGE Publications.
- Charmaz, K., & Thornberg, R. (2021). The pursuit of quality in grounded theory. *Qualitative Research in Psychology*, 18(3), 305–327. <https://doi.org/10.1080/14780887.2020.1780357>
- Clarke, A. E. (2005). *Situational analysis: Grounded theory after the post-modern turn*. SAGE Publications. <https://doi.org/10.1525/si.2003.26.4.553>
- Clarke, A. E. (2021). From grounded theory to situational analysis: What's new? Why? How? In J. M. Morse, B. J. Bowers, K. Charmaz, A. E. Clarke, J. Corbin, & C. J. Porr (Eds.), *Developing grounded theory* (pp. 223–266). Routledge. <https://doi.org/10.4324/9781315169170-16>
- Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. SAGE Publications.
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). SAGE Publications.
- Creswell, J. W., & Guetterman, T. C. (2024). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Pearson. <https://books.google.com/books?id=s7rNtAEACAAJ>
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research*. SAGE Publications.
- Creswell, J. W., & Poth, C. N. (2025). *Qualitative inquiry and research design: Choosing among five approaches* (5th ed.). SAGE Publications. <https://books.google.com/books?id=pwjMEAAQAABJ>
- Dahwa, C. (2024). Adapting and blending grounded theory with case study: A practical guide. *Quality & Quantity*, 58(3), 2979–3000. <https://doi.org/10.1007/s11135-023-01783-9>
- Dey, I. (1999). *Grounding grounded theory: Guidelines for qualitative inquiry*. Academic Press.
- Dey, I. (2003). *Qualitative data analysis: A user friendly guide for social scientists*. Routledge. <https://doi.org/10.4324/9780203412497>
- Gentles, S. J., Jack, S. M., Nicholas, D. B., & McKibbin, K. A. (2014). Critical approach to reflexivity in grounded theory. *The Qualitative Report*, 19(44), 1–14. <https://doi.org/10.46743/2160-3715/2014.1109>
- Glaser, B. G. (1978). *Theoretical sensitivity: Advances in the methodology of grounded theory*. The Sociology Press.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Aldine. <https://doi.org/10.4324/9780203793206>
- Godino, L., Jackson, L., Turchetti, D., Hennessy, C., & Skirton, H. (2018). Decision making and experiences of young adults undergoing presymptomatic genetic testing for familial cancer: A longitudinal grounded theory study. *European Journal of Human Genetics*, 26(1), 44–53. <https://doi.org/10.1038/s41431-017-0030-1>
- Grubs, R. E., & Piantanida, M. (2010). Grounded theory in genetic counseling research: An interpretive perspective. *Journal of Genetic Counseling*, 19, 99–111. <https://doi.org/10.1007/s10897-009-9270-8>
- Guetterman, T. C., Babchuk, W. A., Howell Smith, M. C., & Stevens, J. (2019). Contemporary approaches to mixed methods-grounded theory research: A field-based analysis. *Journal of Mixed Methods Research*, 13(2), 179–195. <https://doi.org/10.1177/1558689817710877>
- Gurasashvili, J., Silverio, S. A., Hill, M., Peter, M., Stafford-Smith, B., & Lewis, C. (2023). The disequilibrium of hope: A grounded theory analysis of parents' experiences of receiving a "no primary finding" result from genome sequencing. *Journal of Genetic Counseling*, 33, 1089–1102. <https://doi.org/10.1002/jgc4.1818>
- Heiniger, L., Price, M. A., Charles, M., & Butow, P. N. (2015). Facilitators and challenges in psychosocial adaptation to being at increased familial risk of breast cancer. *Journal of Genetic Counseling*, 24, 890–907. <https://doi.org/10.1007/s10897-015-9824-x>
- Hood, J. C. (2007). Orthodoxy vs. power: The defining traits of grounded theory. In A. Bryant & K. Charmaz (Eds.), *The SAGE handbook of grounded theory* (pp. 151–164). SAGE Publications. <https://doi.org/10.4135/9781848607941.n7>
- Hsieh, E., Morrissey, B. S., & Chiarelli, I. A. (2024). The landscape of direct-to-consumer genetic testing in reproductive health contexts: An analytical framework of stakeholders and their competing motivations. *Health Communication*, 39(13), 1–14. <https://doi.org/10.1080/10410236.2024.2312607>
- Johnson, R. B., & Walsh, I. (2019). Mixed grounded theory: Merging grounded theory with mixed methods and multimethod research. In A. Bryant & K. Charmaz (Eds.), *The SAGE handbook of current developments in grounded theory* (pp. 517–531). SAGE Publishing. <https://doi.org/10.4135/9781526436061.n27>
- Kelle, U. (2019). The status of theories and models in grounded theory. In A. Bryant & K. Charmaz (Eds.), *The SAGE handbook of current developments in grounded theory* (pp. 68–88). SAGE Publishing. <https://doi.org/10.4135/9781526436061.n5>
- Linden, K. L. V., & Tompkins, C. J. (2021). Collaborative grounded theory. *Grounded Theory Review*, 20(2), 32–42.
- MacFarlane, I., Veach, P. M., & LeRoy, B. (2014). *Genetic counseling research: A practical guide*. Oxford University Press.
- McAllister, M. (2001). Grounded theory in genetic counseling research. *Journal of Genetic Counseling*, 10, 233–250. <https://doi.org/10.1023/A:1016628408498>
- McGhee, G., Marland, G. R., & Atkinson, J. (2007). Grounded theory research: Literature reviewing and reflexivity. *Journal of Advanced Nursing*, 60(3), 334–342. <https://doi.org/10.1111/j.1365-2648.2007.04436.x>
- Meadows, R. J., & Padamsee, T. J. (2021). Financial constraints on genetic counseling and further risk-management decisions among US

- women at elevated breast cancer risk. *Journal of Genetic Counseling*, 30(5), 1452–1467. <https://doi.org/10.1002/jgc4.1413>
- Merriam, S. B., Tisdell, E. J., & Stuckey-Peyrot, H. L. (2025). *Qualitative research: A guide to design and implementation* (5th ed.). Jossey-Bass.
- Miles, M. B., Huberman, A. M., & Saldana, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). SAGE Publications. <https://books.google.com/books?id=p0wXBAAQBAJ>
- Mruck, K., & Mey, G. (2019). Grounded theory methodology and self-reflexivity in the qualitative research process. In A. Bryant & K. Charmaz (Eds.), *The SAGE handbook of current developments in grounded theory* (pp. 470–496). SAGE Publishing. <https://doi.org/10.4135/9781526485656.n25>
- O'Reilly, M., & Parker, N. (2013). 'Unsatisfactory saturation': A critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research*, 13(2), 190–197. <https://doi.org/10.1177/1468794112446106>
- O'Sullivan, L., Zayhowski, K., Hoffman, E., & Carmichael, N. (2023). A qualitative study of LGBTQIA+ genetic counselors' experiences while applying to graduate school. *Journal of Genetic Counseling*, 32(6), 1200–1212. <https://doi.org/10.1002/jgc4.1760>
- Richards, J. L., Petty, E. M., & Zelenski, A. (2021). Exploring empathy in genetic counseling students and new genetic counselors. *Journal of Genetic Counseling*, 30(1), 293–304. <https://doi.org/10.1002/jgc4.1321>
- Sebeelo, T. B. (2024). Methodological confluence: Weaving constructivist grounded theory (CGT) and indigenous research methods. *Methodological Innovations*, 17(2), 88–97. <https://doi.org/10.1177/20597991241256794>
- Silver, J., Caleshu, C., Casson-Parkin, S., & Ormond, K. (2018). Mindfulness among genetic counselors is associated with increased empathy and work engagement and decreased burnout and compassion fatigue. *Journal of Genetic Counseling*, 27, 1175–1186. <https://doi.org/10.1007/s10897-018-0236-6>
- Thornberg, R., & Dunne, C. (2019). Literature review in grounded theory. In A. Bryant & K. Charmaz (Eds.), *The SAGE handbook of current developments in grounded theory* (pp. 206–221). SAGE Publishing. <https://doi.org/10.4135/9781526436061.n12>
- Tie, Y. C., Birks, M., & Francis, K. (2019). Grounded theory research: A design framework for novice researchers. *SAGE Open Medicine*, 7, 2050312118822927. <https://doi.org/10.1177/2050312118822927>
- Timonen, V., Foley, G., & Conlon, C. (2018). Challenges when using grounded theory: A pragmatic introduction to doing GT research. *International Journal of Qualitative Methods*, 17(1), 1609406918758086. <https://doi.org/10.1177/1609406918758086>
- Tomozawa, C., Kaneko, M., Sasaki, M., & Miyake, H. (2024). Clients' experiences of empathy in genetic counseling for hereditary breast and ovarian cancer: A qualitative study in Japan. *Journal of Genetic Counseling*, 34, e1920. <https://doi.org/10.1002/jgc4.1920>
- Urquhart, C. (2019). Grounded theory's best kept secret: The ability to build theory. In A. Bryant & K. Charmaz (Eds.), *The SAGE handbook of current developments in grounded theory* (pp. 89–106). SAGE Publishing. <https://doi.org/10.4135/9781526485656.n6>
- Varpio, L., Ajjawi, R., Monrouxe, L. V., O'Brien, B. C., & Rees, C. E. (2017). Shedding the cobra effect: Problematising thematic emergence, triangulation, saturation and member checking. *Medical Education*, 51(1), 40–50. <https://doi.org/10.1111/medu.13124>
- Wainstein, T., Elliott, A. M., & Austin, J. C. (2022). Considerations for the use of qualitative methodologies in genetic counseling research. *Journal of Genetic Counseling*, 32, 300–314. <https://doi.org/10.1002/jgc4.1644>
- Withers, M., Sayegh, P., Rodriguez-Agudelo, Y., Ernstrom, K., Raman, R., Montoya, L., Zuno-Reyes, A., Mosieri, C., Matute, E., & Ringman, J. M. (2019). A mixed-methods study of cultural beliefs about dementia and genetic testing among Mexicans and Mexican-Americans at-risk for autosomal dominant Alzheimer's disease. *Journal of Genetic Counseling*, 28(5), 921–932. <https://doi.org/10.1002/jgc4.1133>
- Wray, N., Markovic, M., & Manderson, L. (2007). "Researcher saturation": The impact of data triangulation and intensive-research practices on the researcher and qualitative research process. *Qualitative Health Research*, 17(10), 1392–1402. <https://doi.org/10.1177/1049732307308308>
- Zhong, L., Woo, J., Steinhardt, M. A., & Vangelisti, A. L. (2020). "Our job is that whole gray zone in between there": Investigating genetic counselors' strategies for managing and communicating uncertainty. *Health Communication*, 35(13), 1583–1592. <https://doi.org/10.1080/10410236.2019.1654171>

How to cite this article: Fishler Malone, K., & Carmichael, N. (2025). Research methodologies in genetic counseling: Grounded theory. *Journal of Genetic Counseling*, 34, e70060. <https://doi.org/10.1002/jgc4.70060>