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PROFESSIONAL ISSUES

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Applying theories, models, and frameworks to help genetic counselors and students achieve clinical and professional goals

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Abstract

Some genetic counselors (GCs) may find theories, models, and frameworks (TMFs) useful in clinical skills selection and when reflecting on or evaluating genetic counseling practice. This paper aims to demonstrate how TMFs can be used to postulate how different skills may impact patients'/clients' decisions, behaviors, and outcomes and consider how multiple TMFs can inform the use of various skills or strategies to achieve different goals. Additionally, we provide examples of TMFs that may help GCs in nonclinical aspects of their work, such as implementing and evaluating new interventions or service delivery models. To guide the selection of appropriate TMFs, we provide a set of questions to consider and include examples of skills and approaches that align with different TMFs. While TMFs provide a structured approach and valuable guidance that may help advance genetic counseling practice, they have certain limitations. Additional research is necessary to determine the effectiveness of using TMFs to guide clinical practice and improve patient/client outcomes.

KEYWORDS
communication, genetic counseling, outcomes, skills, strategies

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1 | INTRODUCTION

Students and practicing genetic counselors (GCs) may benefit from developing a rationale for why they may or may not use different skills by considering how their approaches may impact patient/client outcomes. Theories can be useful in developing this type of rationale and reflecting on the genetic counseling process. Furthermore, the ability to "Use applicable counseling skills *and theories*" is among the new Accreditation Council for Genetic Counseling practice-based sub-competencies (p. 3, ACGC, 2023).

Although distinctions have been made between the terms theory, model, and framework (Varpio et al., 2020), we will collectively refer to them as TMFs because we do not think an understanding of the nuanced differences is critical to utilize them. TMFs consist of a set of related concepts and/or considerations that may impact processes or outcomes. TMFs may prove particularly valuable in reflecting on genetic counseling practice, given the current dearth of evidence about which genetic counseling skills or processes lead to better patient/client outcomes in various genetic counseling settings (Meiser et al., 2008; Paneque et al., 2012; Paul et al., 2015; Semaka & Austin, 2019).

Leaders in the field of genetic counseling have promoted and described TMFs that may help select different approaches for use in genetic counseling practice (Biesecker et al., 2017, 2019). However, we found no studies evaluating whether using TMFs to inform standard clinical care led to improved outcomes in genetic counseling settings, and their use in genetic counseling practice and even in research has been somewhat limited. For example, a scoping review of 513 papers investigating communication of cancer genetic information between patients and providers or to the general public (published between 2010 and 2017) found that few papers (23%) utilized any TMF and only a limited number of different TMFs were used (Chavez-Yenter et al., 2021). TMFs mentioned were mainly related to behavior change (e.g., Health Belief Model utilized in 3% of papers and Theory of Planned Behavior utilized in 2% of papers) or cognitive representations of risk (e.g., Common Sense Model utilized in 1% of papers). Only a few papers utilized TMFs related to either decision-making (e.g., Ottawa Decision Support Framework) or understanding the communication process between GCs and patients/clients. According to another systematic review, interventions to improve referrals to genetic departments have rarely been informed by TMFs, and recommendations have been made to use TMFs to inform and report on future efforts (Morrow et al., 2021).

In other fields, such as health education, where communication is also of critical importance, the likelihood that interventions and strategies will positively influence outcomes may be greater when informed by TMFs that fit the context and incorporate multiple theory-consistent components (Cummins, 2022; McEwan et al., 2019; Webb et al., 2010). Reviews and meta-analyses have also found that behavioral interventions that are based on social and behavioral TMFs are more effective than interventions not based on theory (Glanz & Bishop, 2010; Gourlan et al., 2016). Therefore, while additional research specific to genetic counseling is needed, existing evidence from related fields indicates the potential benefits of utilizing TMFs.

What is known about this topic

Several clinical counseling approaches as well as theories, models, and frameworks (TMFs) have been proposed for use by genetic counselors (GCs) in genetic counseling practice.

What this paper adds to the topic

This paper provides multiple, concrete examples showing how GCs can use TMFs when planning or reflecting on clinical practice, conducting nonclinical responsibilities, and evaluating genetic counseling outcomes. We also provide guidance to help GCs select relevant TMFs (and various skills/behaviors aligned with TMFs) to help achieve different goals.

To advance the use of a variety of TMFs in genetic counseling practice, the next section of this paper aims to: (1) illustrate some potential benefits of learning about and using TMFs, (2) review TMFs related to genetic counseling goals, processes, or outcomes, (3) show how TMFs can help in selecting various skills relevant to GCs, and (4) provide tips for selecting among different TMFs. We then conclude with a brief discussion of limitations and challenges that arise in applying TMFs in practice.

1.1 | Potential benefits of learning about and using TMFs

1.1.1 | TMFs can help in selecting the approach GCs take to achieve different goals and outcomes

TMFs, particularly those specific to genetic counseling, may help clinical GCs clarify, prioritize, and achieve patient/client goals. For example, the Framework for Outcomes in Clinical Communication Services (FOCUS) is a TMF that organizes a variety of skills GCs have reported using and helps align them with desired patient goals or outcomes (Cragun & Zierhut, 2018; Zale et al., 2022). FOCUS is divided into five domains (process, patient experiences, patient changes, patient health, and family changes). The revised process domain includes 10 skills categories containing skills GCs can combine into a strategy to build rapport, set an agenda (i.e., contracting), gather medical and family history information, elicit and respond to patient/client emotions and experiences, communicate risk, educate, check for understanding, facilitate decision-making,

promote patient activation, and coordinate care or follow-up (Zale et al., 2022).

FOCUS can guide GCs in reflecting on the logic (or potential evidence) behind why and how a strategy is anticipated to impact patient outcomes, but it does not dictate which skills should be combined to form a strategy. According to FOCUS, the strategies GCs use are hypothesized to change the patient's knowledge, attitudes, and choices; and these can subsequently impact the patient's behavior, health, and well-being (Cragun & Zierhut, 2018).

GCs may benefit from employing a TMF such as FOCUS to consider how what they choose to do or not do may influence a given patient's/client's behavior. For example, prior research has suggested that GCs tend to favor a teaching model over a counseling model of practice (Ellington et al., 2005; Joseph et al., 2017). Unfortunately, an education-focused approach, whereby GCs include information about all options, can lead to the provision of too much information (Warton et al., 2023), which can impede effective communication and reduce motivation or willingness to act (Browner et al., 2003; Hadar & Sood, 2014; Joseph et al., 2017). This is illustrated by a real-world example witnessed by one of the authors where a GC told a young mother undergoing treatment for ovarian cancer that she could choose genetic testing from several different laboratories with testing options ranging from *BRCA1/2* only to panel testing with various numbers and types of cancer genes. Although the GC also gave the option of paying $249 out of pocket instead of billing insurance, the GC failed to answer questions the patient/client had about insurance coverage. Unfortunately, the information was so overwhelming that the patient/client defaulted to the option of not undergoing testing even though she recognized the value of knowing if her cancer was among the nearly 20% of ovarian cancer cases that are hereditary. This patient/client reported that her encounter with the GC was the reason she did not undergo genetic testing. Fortunately, the patient had early-stage cancer and survived. She later moved to a different state; and, at the prompting of a new oncologist, she saw another GC who took a different approach by not overwhelming the patient/client with options and instead used the time to understand that testing was important to the patient/client because she wanted to know more about cancer screening or prevention options for her children. The GC then answered the patient's/client's questions about insurance coverage and arranged next steps so the patient/client could get a large germline panel test that included all "actionable cancer genes" (which is the testing option that best aligned with the patient's/client's desire to find out anything that might help her children prevent cancer or find it early). In the end, after receiving a negative result on a comprehensive cancer panel, this patient/client experienced a reduction in worry because she now knew that cancer risks were not substantially increased for her three children.

Although this example illustrates how TMFs, together with self-reflection, can help GCs understand the impact their approach and counseling choices may have on patient/client outcomes, a single case example does not constitute empirical evidence. Additionally, there is no evidence that using TMFs, such as FOCUS, improves genetic counseling practice or outcomes. However, some GCs and GC students may find TMFs helpful in preparing for cases or when reflecting on why they believe a case went well or went poorly; such an approach can be completed on their own, as a course assignment, while debriefing with a mentor, during peer supervision, or as part of a continuing education activity.

1.1.2 | TMFs may help clinical GCs consider what factors will likely contribute to patient/client decisions and behaviors

Usually, many factors contribute to patients'/clients' feelings, thoughts, decisions, and behaviors. Various TMFs can help GCs consider or postulate how factors may or may not relate to each other and which factors are most influential on different patient/client decisions and behaviors. Understanding these factors may help GCs determine what to explore during the session and how to help activate patients/clients to take action after the visit. For example, the extended parallel process model (EPPM) suggests that simply raising people's awareness that they are at high risk may be unhelpful because it can paralyze them or lead them to focus energy on minimizing their fear (Witte, 1992, 1994). According to the EPPM, if we want people to take actions that reduce the threat, they need to believe that taking those actions will be effective (i.e., high levels of response efficacy) and they need to believe that they have the ability and resources they need to take those actions (i.e., high levels of self-efficacy). Consequently, if family sharing letters for certain "actionable" genetic conditions are primarily focused on risks and fail to clearly include efficacy messages, they may not be as useful at promoting action among family members (Campbell-Salome et al., 2022). After all, why would family members want to know they are at high risk if they do not think there is anything they can do about it?

1.1.3 | TMFs may help clinical GCs influence the systems in which they work

During their career, many GCs engage in efforts to influence the health systems, organizations, or companies in which they work. This often requires a unique perspective and consideration of different factors than those that may impact patients/clients on the individual or interpersonal levels. TMFs can guide GCs in making system-level changes or implementing a new service delivery model (Damschroder et al., 2022; Proctor et al., 2011). Guidance related to how and why TMFs can be applied when planning for, completing, and evaluating clinical practice changes or implementing new guidelines has been published previously (Lynch et al., 2018). TMFs may also help in considering ways to justify new GC positions or to promote diversity, equity, inclusion, and social justice initiatives (Chanouha et al., 2023; Culyer, 2001; Moreu et al., 2021).

1.2 | TMFs that relate to genetic counseling goals, processes, or outcomes

TMFs vary in the extent to which they have been developed to specifically address the practice needs of GCs. FOCUS represents one TMF that was created by GCs to expand upon another TMF called the reciprocal engagement model (REM) of genetic counseling. Thus, both FOCUS and the REM are highly specific to the practice concerns of GCs. Other TMFs, such as self-determination theory (SDT), were not developed in the context of genetic counseling; yet they can still be useful to clinical GCs. SDT aligns well with the REM and a meta-analysis of 73 studies found evidence that intervention studies informed by SDT produced small, but significant changes in physical and psychological health outcomes (Ntoumanis et al., 2021). In order to illustrate how various TMFs can relate to genetic counseling goals, processes, or outcomes, this section introduces the REM and demonstrates how it overlaps with and compliments both FOCUS and SDT. Throughout this section, we occasionally pull from empirical research to help support the importance of tenets from the REM and constructs from SDT even though not all studies we cite explicitly used these TMFs.

The REM identifies five tenets of genetic counseling and 17 goals to achieve these tenets in practice (Veach et al., 2007). REM tenets and goals highlight the importance of being patient-centered when educating, facilitating decision-making, focusing on the relationship between the patient and GC, and addressing the patient's emotions (Hartmann et al., 2015; Veach et al., 2007) and these tenets overlap with certain constructs from SDT. According to SDT, consideration should be given to a patient's/client's need for autonomy (i.e., feeling that one has choices), relatedness (i.e., feeling connected to others), and competence (i.e., experiencing mastery and feeling effective in one's activities). When all three of these needs are met, this enhances self-motivation and engagement in educational and work settings (Ryan & Deci, 2000). Conversely, when one or more of these three basic psychological needs are thwarted, it may negatively impact an individual's well-being, learning, and motivation.

The need for autonomy from the SDT is congruent with the REM tenet, "patient autonomy must be supported," and highlights the value of helping people to identify and achieve their own goals. One study unrelated to genetic counseling has connected a strong sense of perceived autonomy support with adherence to medication use (Umeukeje et al., 2016). Autonomy support was also positively associated with patient increases in provider trust as well as physical and mental health-related quality of life, but only for patients who prefer high levels of information (Lee & Lin, 2010). These findings highlight how promoting patient/client autonomy (often through the provision of information) may be useful for some individuals; but it may fail to provide equal benefits across all patients/clients. Presumably, some patients/clients may benefit if their healthcare providers attend more to other psychological needs (i.e., relatedness and competence).

The second REM tenet, "relationship is integral to genetic counseling" aligns with relatedness from the SDT. The importance of this psychological need is supported by the finding that patients/clients who perceived a higher quality of relationship with their GC had greater increases in patient/client empowerment (Murray et al., 2022). A meta-analysis of studies with nongenetic providers found the patient–clinician relationship had a small but significant impact on positive healthcare outcomes (Kelley et al., 2014). An additional REM tenet, "patient's emotions make a difference," has the potential to impact relatedness because patients' perceptions of provider empathy made it easier for patients to trust nurses, and trust was critical in establishing a working relationship (McCabe, 2004).

The SDT construct of competence encompasses two REM tenets ("knowledge is key" and "patients are resilient"). Given adequate knowledge and support, patients will be competent in making decisions and adapting to challenging situations (Veach et al., 2007). As previously mentioned, the provision of too much information or too much autonomy (i.e., too many choices and no guidance) can reduce patient/client competence. Figure 1 illustrates the difference between an education-focused approach to facilitating autonomous decision-making versus a self-determination guided approach and shows the hypothetical impact of each approach on the patient experience and downstream outcomes from the FOCUS framework.

TMFs such as the REM, SDT, and FOCUS can remind GCs that multiple factors need to be considered when reflecting on or evaluating the genetic counseling process. Meeting patient/client needs requires that GCs not only educate and facilitate autonomous decision-making, but that they also spend time building a trusting relationship and promoting patient/client competence. Furthermore, for some patients/clients or in certain contexts, a trusting relationship and/or promoting competence may be more important to improve patient outcomes than focusing on autonomous decision-making. Regardless of whether one of the basic needs from SDT is deemed most salient, all three should be considered when counseling patients/clients to maximize the likelihood of positive outcomes.

Although we have found that the REM, SDT, and FOCUS fit well with genetic counseling, there is no evidence that they are more effective than other TMFs at thinking through strategies to achieve various GC goals and outcomes. Thus, readers are referred to another manuscript that reviews multiple interpersonal communication theories (Bylund et al., 2012) as well as to Table 1 (described below) for additional TMFs that could inform genetic counseling.

1.3 | Using different TMFs to select skills and approaches for achieving various types of goals

Certain TMFs may be more helpful in the context of patient care, while others are more applicable to nonclinical job responsibilities or goals. Consequently, GCs can explore different skills/strategies derived from a variety of TMFs that align with these different goals. Table 1 lists several goals that relate to the individual and interpersonal levels (e.g., helping patients/families) as well as goals that relate to organizational and systems levels (e.g., making changes or improvements in work settings, implementing new procedures or

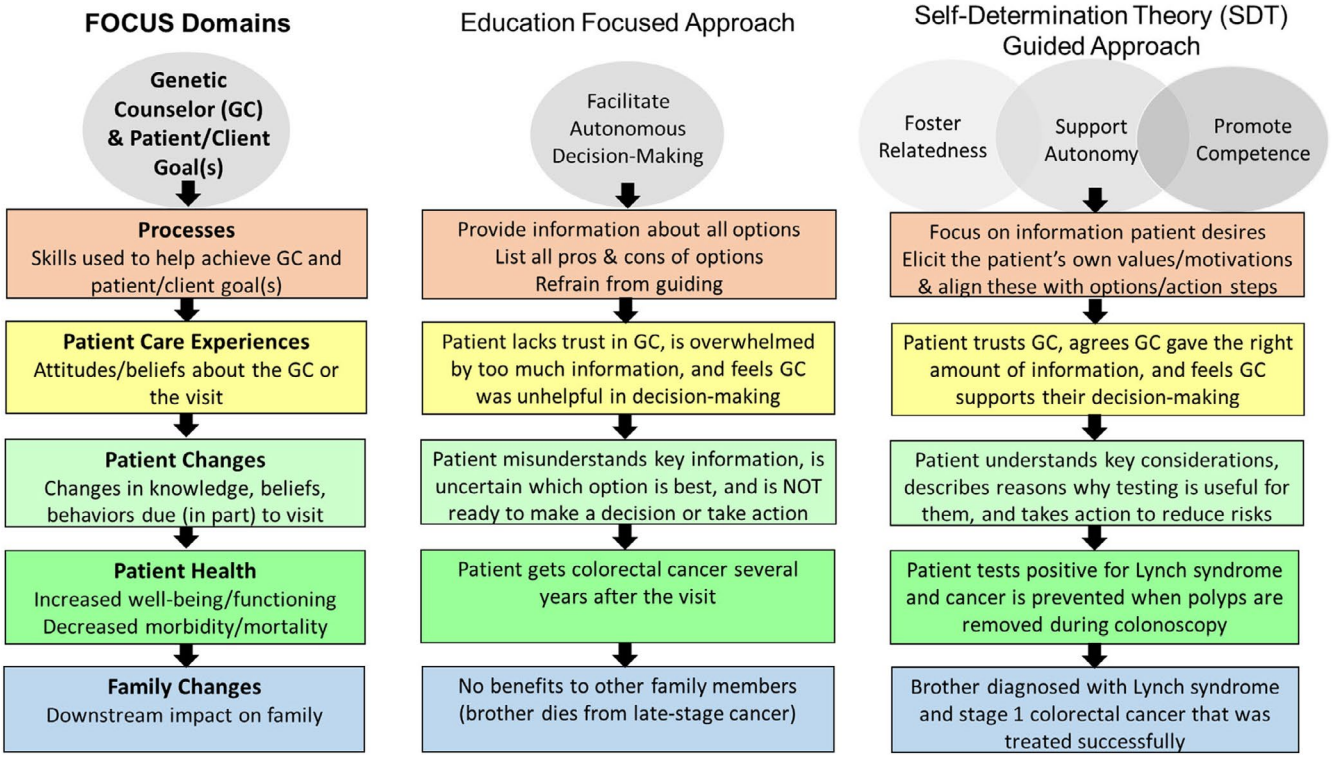


FIGURE 1 Example using the Framework for Outcomes in Clinical Communication Services (FOCUS) to illustrate differences in goals, processes, and outcomes of two different clinical approaches.

interventions, changing policies, improving justice and equity, and making a case for new GC positions). A few example TMFs that align with each goal are listed in the second column of Table 1 (including several TMFs not mentioned in the main text). The third column of the table lists skills or approaches the authors derived from or believe are supported by each of the respective TMFs.

Some skills used by GCs stem from TMFs (including several models of shared decision-making). However, many skills available to GCs come from counseling approaches or styles. For example, motivational interviewing (MI) is a counseling style that is often goal-oriented (directional) and geared toward helping patients/clients overcome ambivalence or resistance to behavior change. Although many decision-making and MI skills have been detailed previously (Ash, 2017; Elwyn et al., 2014, 2017; Resnicow et al., 2022; Resnicow & McMaster, 2012; Zale et al., 2022), examples include shared agenda setting, tailoring information (e.g., focusing on options relevant to the patient's/client's values), use of decisional balance to elicit patient/client's perceptions of the pros/cons or costs/benefits of each choice, providing transparency in biases the GC might have, and remaining nonjudgmental.

As shown in Figure 2, a TMF that is nonspecific to genetic counseling such as SDT can be used to help GCs remember that autonomy is not the only psychological need when selecting among skills that fall along a continuum from equipoise (whereby the GC presents multiple options as equally valid) to directional guidance (when one option is presented as having clear benefits over other options). Skills that guide a behavior or decision in a particular direction (e.g., overcoming ambivalence to adopting a healthy behavior) can be applied in an ethical and autonomy supportive fashion when there is one clearly best medical option (Jamal et al., 2020; Resnicow et al., 2022). Additionally, guidance may be justified in a prenatal setting when it is used to help a patient/client identify the option that best aligns with their values. As an illustration, after eliciting a patient's/client's values and concerns, prenatal GCs may reply with, "Based on what you said, it seems like avoiding anything that could risk losing the pregnancy is more important to you than finding out for sure whether your baby has Down syndrome or not… if this is true it may make sense for you to choose NOT to do chorionic villus sampling or amniocentesis." This directional reflection aligns with SDT by eliciting the patient's/client's values and subsequently using that information to guide them in a direction that promotes patient/client decision-making competence without infringing on their autonomy.

1.4 | Selecting from many TMFs

We have presented a relatively small number of TMFs that we have either used or believe may be relevant to GCs. Many more TMFs exist that may be useful to GCs, and the sheer number of TMFs can feel overwhelming. Therefore, when selecting TMFs, it may be helpful to consider the following questions: (a) What is your purpose or goal?, (b) Are you interested in any particular patient/client outcomes or other types of outcomes?, (c) Who impacts

TABLE 1 Theories, models, and frameworks (TMFs) that may align with goals relevant to GCs and examples of skills/strategies the authors derived from or determined were supported by the respective TMF.

Goal	TMF	Skills/strategies to achieve goal
Individual/Interpersonal levels		
1. Help patient/client cope or improve their well-being	*Transactional model of stress and coping* (Lazarus & Folkman, 1984) *Uncertainty in illness theory (UIT)* (Mishel, 1999) *Social support theory* (Cohen & Wills, 1985)	• Point out or elicit an understanding of patient's/client's primary and secondary appraisals; ask what has helped patient/client cope in the past; explore how well problem- or emotion-focused coping works for them • Help patient/client identify the sources and types of uncertainty they are experiencing; elicit whether they view uncertainty as a danger to be reduced or an opportunity for hope • Provide informational support (e.g., describe conditions, options, anticipatory guidance, or available support organizations); provide emotional support (e.g., use reflective listening, advanced empathy, normalization, etc.); provide instrumental support (e.g., make referrals or help schedule follow-up appointments)
2. Facilitate preference sensitive decision-making (equipoise)	*Three talk model of shared decision making* (Elwyn et al., 2017) *Ottawa decision support framework* (Stacey et al., 2020)	• Indicate your supportive role in helping the patient/client decide among several options (Team talk); Ensure they understand the options (Option talk); Help patient/client determine which option aligns best with their values, beliefs, and goals (Decision talk) • Clarify options, elicit reasons patients/clients have for making the decision, determine their time frame and readiness to decide, help them align values with the options, identify additional decision-making needs, and plan steps to address remaining decisional needs
3. Change attitudes, beliefs, thoughts, and/or behavior	*Extended parallel process model* (Witte, 1992, 1994) *Cognitive model of mental illness* (Beck, 1979, 2008) *Capability opportunity, motivation behavior model (COM-B)* (Michie et al., 2011) *Theoretical domains framework (TDF)* (Cane et al., 2012)	• Increase patient's/client's risk perceptions (i.e., raise threat level so they pay attention and believe information is relevant and important for them); educate on benefits and/or effectiveness of performing a behavior (i.e., improve response efficacy); and build confidence in their ability to follow through and overcome any barriers to action (i.e., increase patient's/client's self-efficacy) • Employ cognitive behavioral therapy techniques that may combat dysfunctional thought processes (e.g., point out when patient/client is making sweeping conclusions or blowing things out of proportion); help them see new or different perspectives • Utilize a broad array of behavior change techniques that fit within constructs from the COM-B and TDF (e.g., providing information on the consequences of the behavior, goal setting, action planning, problem solving, coping planning, etc.)
4. Motivate, persuade, or guide an individual to take action or choose a particular option (*if the action or option is medically indicated*)	*Self determination theory (SDT)* (Ryan & Deci, 2000) *Elaboration likelihood model* (Petty & Cacioppo, 1986)	• Use motivational interviewing (MI) skills to increase patient/client motivation and competency while respecting their autonomy (e.g., use of the readiness ruler, developing discrepancy, and coming alongside) • Encourage the patient/client to elaborate on their reasons for wanting/needing to take action (i.e., consolidate commitment). Design materials so they appeal to individuals who are less engaged; make the "best medical option" desirable based on peripheral cues (e.g., use pictures that suggest taking action will make them happy, fit with their lifestyle/values, result in positive outcomes)

TABLE 1 (Continued)

Goal	TMF	Skills/strategies to achieve goal
5. Understand or improve interpersonal interactions and/or outcomes of interactions	*Social cognitive theory* (Bandura, 1985) *REM* (Veach et al., 2007) *FOCUS* (Cragun & Zierhut, 2018; Zale et al., 2022)	• Provide incentives/rewards; model behavior; identify others who are supportive; encourage small steps to increase confidence (i.e., self-efficacy) • Select from a variety of skills aligned with both the REM and FOCUS framework aimed to: build rapport, set the genetic counseling agenda (contracting), recognize and respond to emotions/experiences, educate, check for understanding, facilitate decision-making, and promote patient/client activation
Organizational/systems level		
6. Make improvements at your organization or implement new interventions, service delivery models, or procedures	*Reach, effectiveness, adoption, implementation, maintenance (RE-AIM)* (Glasgow et al., 2019) *Consolidated framework for implementation research (CFIR)* (Damschroder et al., 2022) *Implementation strategies* (Powell et al., 2015)	• When planning and evaluating interventions consider: (1) how to reach all those who need the intervention (Reach); (2) how you know the intervention is working (Efficacy/Effectiveness); (3) how to develop support from the organization and those who deliver the intervention (Adoption); (4) how to increase the likelihood that the intervention is feasible and delivered according to plan (Implementation); and (5) how to ensure the intervention continues to provide long-term benefits (Maintenance) • Consider how a broad array of contextual factors may impact implementation (e.g., organizational size, structure, culture, external policies and pressures) • Employ multiple implementation processes/strategies (e.g., form teams, plan, reflect and evaluate, share evidence favoring the intervention; strengthen communication; provide interactive assistance, etc.)
7. Understand or influence how systems and policies affect individuals or promote change	*Socio-ecological model* (Zhong et al., 2017) *Process of creation and prioritization of genetic counseling positions* (Chanouha et al., 2023)	• Intervene simultaneously at multiple levels (patient, provider, policy levels); use environmental restructuring; create guidelines and enact policies • To influence prioritization of funding for GC positions promote and/or highlight: (1) *demand drivers* (e.g., physician champion, available genetic testing, and referrals), (2) *valued outcomes* (e.g., downstream revenue, improving physician efficiency, benefiting patients/clients, and aligning with policies/guidelines)

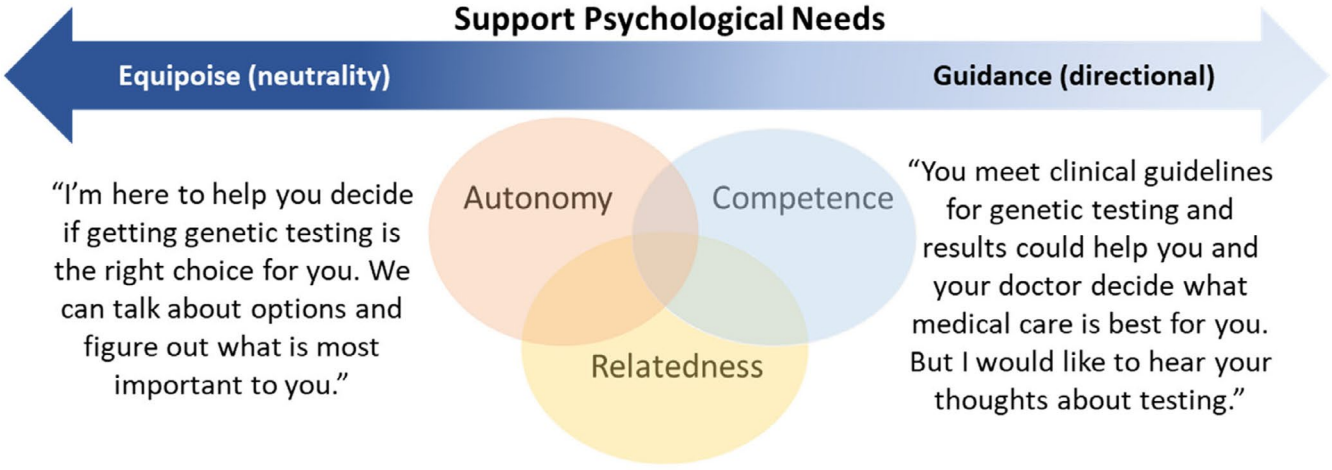


FIGURE 2 Skills that support psychological needs of autonomy, relatedness, and competence fall along a spectrum ranging from equipoise (maintaining neutrality when there is no single best option) to guidance (directing toward what is likely to be the most beneficial option).

or is impacted by your goal and/or outcome of interest?, and (d) What factors (which are sometimes referred to as theoretical constructs) do you believe to be most influential in the context of your desired purpose, goal, or outcome and does the TMF include these key factors? Answering these questions assists with selecting TMFs that address the specific purpose and fit the context. Next, we provide practical guidance for using these questions to select TMFs.

1.4.1 | Ensure your TMF fits your purpose and goals

Given that TMFs have been created for different purposes or goals, we included several goals in the first column of Table 1 and aligned each goal with relevant TMFs in the second column. To illustrate this with a specific example, we can consider a female with a highly penetrant pathogenic variant in a breast cancer susceptibility gene who wants help deciding when to tell her children about their risks. In this case, the goal would be to facilitate decision-making from a position of equipoise (since guidelines do not support a single age when children should be informed). Thus, decision-making TMFs from Table 1 (goal 2) could be useful when selecting the most appropriate skills and strategies to use in this GC-patient/client interaction.

1.4.2 | Select a TMF that fits your outcome of interest

Sometimes it may help to project further into the future and consider which patient/client outcomes are eventually desired. For example, the ultimate benefit of identifying people with Lynch syndrome is to reduce cancer morbidity and mortality. Thus, the GC's goal may be to motivate and support a patient/client in testing for a known familial pathogenic variant associated with hereditary colorectal cancer and/or undergoing surveillance colonoscopies. Given data that regular colonoscopies are effective at achieving positive health outcomes (Doubeni et al., 2018; Newton et al., 2015), the GC may use skills derived from or supported by TMFs related to motivation and guidance (see Table 1, goal 4).

1.4.3 | Consider whether the TMF focuses on the individual, interpersonal, organizational, or societal level

TMFs may focus on individual patients/clients, interpersonal interactions (patient/client-provider or patient/client-family), groups of people within an institution/healthcare organization, or broader societal and policy levels. We applied these levels when organizing the goals in Table 1 to reduce the number of TMFs from which to select for each goal. Although we recognize that clinical GCs often focus primarily at the individual or interpersonal levels, the importance and influence of organizational and system-level factors should be considered.

1.4.4 | Ensure the TMF includes factors (i.e., theoretical constructs) that are most applicable to your goal/outcome, setting of interest, and prior research

When empirical evidence suggests a factor may be strongly correlated with or influential to the outcome of interest, it should be part of the TMF you select. For example, many TMFs do not consider the impacts of emotions (Christensen et al., 1999). However, levels of anxiety and worry about pregnancy outcomes and procedure-related risks are often key factors influencing decision-making regarding invasive prenatal testing (Tzela et al., 2024) and research in other contexts has revealed emotions can influence judgments and choices (Lerner et al., 2015). Therefore, choosing a TMF like the EPPM or emotion-imbued choice model (Lerner et al., 2015) that include emotional reactions should be considered.

As another example, when communicating with family members about a genetic risk, people often consider the patient's/client's beliefs about the extent to which family members (or other people who are important to them) think they should share the genetic information (a construct referred to as normative beliefs). Consequently, a TMF that includes normative beliefs, such as the capability opportunity motivation behavior (COM-B) model, should be considered over other TMFs (Cragun et al., 2023; Michie et al., 2011).

It is also important to ensure that the selected TMF encompasses key factors that are most important to patients/clients or other stakeholders. If GCs find that key factors are not included as constructs within a TMF, they should consider using a different TMF (even if it is unfamiliar or more complex). For example, a GC may want to demonstrate that a new practice model or process is effective at improving access. Choosing a framework such as the reach, effectiveness, adoption, implementation, maintenance (RE-AIM) model to demonstrate broader reach to individuals not previously attending clinic may be useful for making the case when evaluating that new practice model.

2 | LIMITATIONS OF THEORIES, MODELS, AND FRAMEWORKS

Not all TMFs are equal. Some TMFs are more comprehensive than others, some are more conceptually precise, while others have more evidence supporting their validity and have been tested in different populations or contexts. When selecting among TMFs, it is critical to compare their strengths and limitations by examining the basis of each, determining whether they include components relevant to your context, assessing their underlying assumptions, and evaluating the extent to which each is based on or has been supported by empirical evidence (Weinstein, 2007).

Some limitations are common across TMFs. First, we acknowledge that TMFs are not always necessary to advance practice. For example, MI skills came from observations and practice-based evidence of what worked to change behavior in the context of substance abuse counseling (Miller & Rose, 2009). However, given the limited practice-based evidence specific to genetic counseling skills, we advocate using TMFs in building a rationale to support genetic counseling practice. We have found TMFs helpful in proposing relationships between various processes, factors, and outcomes. Nevertheless, relationships are not always validated once evidence is collected; and sometimes, the relationships may be context dependent (i.e., the rationale is valid for certain individuals, in some settings or for certain types of behaviors but not for others). Furthermore, health communication, health decision-making, and health behavior are complex (Resnicow & McMaster, 2012), and many commonly used theories do not account for the influence of factors such as culture, societal norms, or the concept of intersectionality (Bowleg, 2012). It is impossible to consider or measure all factors, which is why choosing a TMF that best fits your setting and includes the most important factors is critical. In addition to limitations of TMFs themselves, the ways in which TMFs are applied to evaluate clinical practice may prevent them from having maximal benefit (Cummins, 2022).

3 | CONCLUSIONS

In summary, we have demonstrated how and why TMFs can be applied in genetic counseling practice to plan a strategy, reflect on encounters, or evaluate processes and outcomes. Determining which approaches and genetic counseling skills work best at achieving different goals in different settings or for different patients/clients is a laudable goal. However, until we are able to gather sufficient empirical evidence to determine best practices in genetic counseling, TMFs can help GCs reflect on and provide a rationale for the skills they use.

Genetic counseling practice can and should be modified based on patient/client feedback about their experience. However, to adequately test theory and identify best practices, additional research and analytic methods will likely be needed that examine complex relationships between the skills GCs use and multiple other factors that may impact patient/client outcomes (Dean et al., 2023; Streiner, 2005). There is often tension between what is ideal and what is practical (Emmons & Rollnick, 2001), so it is critical to remain flexible as we work to determine ways GCs can best help each individual patient/client or improve the organizations/systems in which GCs work. No single approach or single TMF is likely to be effective, useful, or valid in all genetic counseling settings. Although we believe that if GCs understand, apply, and evaluate TMFs, it will help advance the profession, additional research is necessary to test the extent to which TMFs are truly useful at improving genetic counseling practice or outcomes.

AUTHOR CONTRIBUTIONS

All authors contributed ideas for the paper through multiple discussions and rounds of feedback. Kimberly A. Kaphingst, as senior author, led the working group, organized meetings, and compiled feedback. Deborah Cragun was the lead writer and editor. Lindsey Victoria, Mira L. Katz, and Kimberly A. Kaphingst wrote sections of the initial draft. All authors edited and approved the final manuscript.

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CONFLICT OF INTEREST STATEMENT

Deborah Cragun, Marleah Dean, Jada G. Hamilton, Mira L. Katz, Alanna Kulchak Rahm, Ken Resnicow, and Kimberly A. Kaphingst declare that they have no conflicts of interest. Angela R. Bradbury has partial grant support and advisory funds from Astrazeneca and Merck. Although Lindsey Victoria works for a commercial company, most of her contributions to this paper occurred while she was a graduate student at the University of South Florida, and she reports no conflict 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 data from human participants are reported.

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

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