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GENETIC COUNSELOR DEVELOPMENT

From Novice to Seasoned Practitioner: a Qualitative Investigation of Genetic Counselor Professional Development

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Abstract Research on genetic counselor professional development would characterize typical developmental processes, inform training and supervision, and promote life-long development opportunities. To date, however no studies have comprehensively examined this phenomenon. The aims of this study were to investigate the nature of professional development for genetic counselors (processes, influences, and outcomes) and whether professional development varies across experience levels. Thirty-four genetic counselors participated in semi-structured telephone interviews exploring their perspectives on their professional development. Participants were sampled from three levels of post-degree genetic counseling experience: novice (0–5 years), experienced (6–14 years), and seasoned (>15 years). Using modified Consensual Qualitative Research and grounded theory methods, themes, domains, and categories were extracted from the data. The themes reflect genetic counselors' evolving perceptions of their professional development and its relationship to: (a) being a clinician, (b) their professional identity, and (c) the field itself. Across experience levels, prevalent influences on professional development were interpersonal (e.g., experiences with patients, genetic counseling colleagues) and involved professional and personal life events. Common developmental experiences included greater confidence and less anxiety over time, being less information-driven and more emotion-focused with patients, delivering "bad news" to patients remains challenging, and individuals' professional development experiences parallel genetic counseling's development as a field. With a few noteworthy exceptions, professional development was similar across experience levels. A preliminary model of genetic counselor professional development is proposed suggesting development occurs in a non-linear fashion throughout the professional lifespan. Each component of the model mutually influences the others, and there are positive and negative avenues of development.

Keywords Genetic counseling · Genetic counselor · Professional development · Experience · Training · Model

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According to a recent National Society of Genetic Counselors' (NSGC) Professional Status Survey (NSGC 2014), 88 % of genetic counselor respondents across specialties were satisfied with their jobs and 85 % were actively engaged in one or more activities that arguably promote professional development. Little is known, however, about the nature of genetic counselors' professional development. The present study explored how genetic counselors develop professionally, including influences that promote and hinder development over one's career.

Definitions and Models of Professional Development

Presently, the genetic counseling field lacks a standard definition and model of professional development. Select definitions

and models derived in other human services fields may offer relevant insights. Definitions variously focus on cultivation of competence (e.g., Lindley 1997); a blend of competence and confidence (Orlinsky et al. 1999); professional development as primarily continuing education (Mitchell 2001; Postle et al. 2002); and professional development as inclusive of intersections between one's personal and professional lives (Ducheny et al. 1997). A definition from psychology and models of psychotherapist professional development informed conceptualization of the present study.

Elman et al. (2005) created a comprehensive definition of psychologists' professional development encompassing the professional lifespan from training through retirement:

> Professional development is the developmental process of acquiring, expanding, refining, and sustaining knowledge, proficiency, skill, and qualifications for competent professional functioning that result in professionalism. It comprises both a) the internal tasks of clarifying professional objectives, crystallizing professional identity, increasing self-awareness and confidence, and sharpening reasoning, thinking, reflecting, and judgment and b) the social/contextual dimension of enhancing interpersonal aspects of professional functioning and broadening professional autonomy (p. 368).

Their definition describes an ongoing process of integrating internal and external personal and professional experiences, roles, and functions to achieve desired outcomes of competence, confidence, and professionalism.

Ronnestad and Skovholt (2003) created a model of psychotherapists' professional development congruent with the Elman et al. (2005) definition. Based on inductive analysis of 100 interviews, their model describes developmental processes of novice to retired therapists. Fourteen themes characterize processes that are common across phases of development. Overall, these themes represent self-reflection (about personal and professional experiences), interpersonal interactions, openness to learning from many sources (including clients), flexibility, and intersections between personal and professional experiences. Orlinsky et al. (2005) surveyed 5,000 psychotherapists worldwide about specific components of their current and past development, with attention to both positive and negative aspects of professional development. Similar to Ronnestad and Skovholt (2003), their results emphasize interpersonal influences in one's personal and professional life.

Literature on Genetic Counselor Professional Development

Extant work on genetic counselor professional development consists primarily of reflective self-reports—a powerful modality, but one that leaves room for creating a more systematic picture of genetic counselor professional development. There are a few empirical investigations, but they focus on components rather than overall processes [e.g., learning on the job (Runyon et al. 2010).

Reflective Self-Reports

Numerous articles, written in a personal essay format, contribute to answering the question of what it "looks like" for genetic counselors to develop professionally. Each report demonstrates that genetic counselors' personal and professional experiences mutually influence each other, often in unexpected and powerful ways.

Abrams and Kessler's (2002) series of "truth-in-fiction" vignettes "approximates a developmental path many genetic counselors may follow in their careers" (p. 6). Their vignettes portray a cross section of professionals, including novices (e.g., a young genetic counselor giving a couple "bad news" about their amniocentesis results as she guiltily thinks of her own healthy children) and more seasoned counselors [e.g., a mentor who felt "so isolated and distant from it all, a bystander who had little left to say and even less to contribute" (p. 15)]. Their series illustrates the importance of self-reflective processes, the role of even mundane and seemingly minor/uneventful situations as catalysts for change, intersections of personal and professional experiences, and development and assertion of a professional identity. Abrams and Kessler (2002) also suggest an individual's development parallels the struggles of a young profession fighting to establish its own professional identity.

Resta (2002), in response to Abrams and Kessler (2002), posits a loosely structured series of genetic counselor professional development milestones: (1) "self-doubt and scrutiny of student training is a necessary starting point for professional development" (p. 21); (2) "after the stage of mastering technical information, many counselors become interested in enhancing their counseling skills" (p. 21); and (3) "once a counselor has confidence in his or her counseling skills and clinical judgment, it is natural to serve as a mentor for other counselors" (p. 22). He further asserts these tripartite developmental processes of self-doubt, skill cultivation, and confidence leading to mentoring often manifest through genetic counselor discomfort.

McCarthy Veach et al. (2002a), McCarthy Veach et al. 2002b; McCarthy Veach and LeRoy 2012) edited two series of essays describing genetic counselors' "defining moments" or pivotal experiences that promote their professional development." The authors ranged from students to highly experienced practitioners, and their experiences included illness and loss, lessons from patients and colleagues, taking on novel professional roles, and cultural learnings. A prevalent theme

concerns the interconnection of experiences in one's personal and professional life.

Matloff (2006) and Anonymous (2008) further demonstrate profound ways in which personal and professional experiences become meaningfully intertwined. Matloff describes how experiencing her mother's cancer diagnosis caused her to become more empathic, understanding, and self-aware in her professional functioning. Anonymous (2008) poignantly describes the difficult decision she and her husband made to terminate a pregnancy during the second trimester after discovering a brain abnormality. She shares the sequence of events, decision process, emotional recovery, and integration of these experiences into her genetic counseling practice.

These reflective self-reports contain similar recommendations about ways genetic counselors can develop optimally. Suggestions include seeking supervision to garner support, understanding, and personal and professional growth (e.g., McCarthy Veach et al. 2002a; Resta 2002); telling one's stories through speaking or writing—giving voice to experiences that might otherwise go untold, in order to promote development of the individual and the collective profession (e.g., Abrams and Kessler 2002; Resta 2002); and using published articles to stimulate discussion with colleagues about personal and professional experiences.

The personal reflective nature of self-report articles renders them important and rich sources of information about genetic counselor professional development. They are limited, however, by their lack of generalizability. Despite their compelling nature, reflective self-reports should be corroborated by qualitative and quantitative research.

Studies of Professional Development Components

A few studies have investigated specific aspects of genetic counselor professional development. Runyon et al. (2010) surveyed 181 genetic counselors, asking them to respond to two questions: "What is the most important thing you have learned about yourself in your practice as a genetic counselor?" and, "What piece of advice would you offer to genetic counseling students just starting their career?" (p.373). A vast majority of respondents described learning that resulted in positive outcome(s) such as increased empathy, greater self-esteem, stronger clinical skills, and enhanced expertise. A small number however, described learning that resulted in negative outcomes; for example: "I now have a huge fear of taking the leap to have kids…after 7 years of exposure, getting pregnant feels like playing Russian Roulette!" (p. 376). Four studies further demonstrate that professional development is not always about "gains" (Benoit et al. 2007; Injeyan et al. 2011; Lee et al. 2014; Udipi et al. 2008). These studies suggest genetic counselors are at risk for excessive stress, burnout, and compassion fatigue.

The results of these empirical studies illustrate some of the ways in which genetic counselors are challenged by their professional responsibilities. They also provide valuable information about specific avenues and outcomes of genetic counselor professional development.

Purpose of the Study

Drawing upon literature in genetic counseling and in psychology, the present study investigated the professional development experiences of genetic counselor practitioners. There were two major research questions: 1) What is the nature of professional development for genetic counselors (including processes, influences, and outcomes)? and 2) Does professional development vary as a function of genetic counselor experience level? The findings were expected to provide a basis for further research, as well as a preliminary model of genetic counselor professional development.

Methods

Participants

Upon approval by the University of Minnesota Institutional Review Board, participants were solicited via an online survey sent to a listserv comprised of full members of the NSGC (estimated N=1,312). An initial invitation sent on January 28, 2008, yielded 164 responses. An additional 67 genetic counselors responded after a follow-up invitation 1 month later, for a total of 231 returned surveys. Of these, 96 indicated willingness to be contacted for a 45 min phone interview about their professional development processes and experiences. Interviewees were selected based on two predetermined criteria: post-degree genetic counselor; and worked as a genetic counselor in direct clinical service for an average of 20 h per week within the past 2 years; and one post-hoc criterion: an experienced genetic counseling program director and/or educator. The latter criterion was added in order to retain individuals who accrued substantial amounts of direct service with patients during their careers but had shifted into different roles.

We used purposive sampling (intentional, non-random sampling based on the purpose of the study) to obtain diversity with respect to practice specialty, age, gender, years of experience, ethnicity, and NSGC region. We selected a minimum of 10 individuals from each of three categories of post-degree experience proposed by Ronnestad and Skovholt (2003): novice (0–5 years), experienced (6–15 years), and seasoned (≥15 years). The numbers for each group are considered sufficient to obtain data saturation (Hill et al. 1997). Sixty

individuals were contacted to obtain a final sample of 34 genetic counselors (10 novice, 12 experienced, and 12 seasoned).

Instrumentation

Survey We developed an 8-item online survey to gather demographic information and to ask respondents about their interest in participating in a 45-min telephone interview about their professional development experiences.

Interview Protocol We developed a semi-structured interview protocol (see Appendix) based on extant literature and our respective professional experience, including an advanced counseling psychology doctoral student, a licensed psychologist with experience conducting genetic counseling research, and an experienced genetic counselor and program director. The questions are derived from three sources: 1) six questions slightly modified for genetic counseling from Orlinsky et al.'s (2005) survey instrument [with author permission (David Orlinsky, personal communication, 9/7/2007)]; 2) three questions from Skovholt and Ronnestad's (1992) original interview study [slightly modified for genetic counseling and used with author permission (Thomas Skovholt, personal communication, 9/7/2007)]; and 3) eight questions informed by genetic counseling literature and our experiences working with genetic counselors. Interview topics included: views of helping; succeeding with patients; and definitions of professional development (including how these have changed with time and experience); mutual influences of personal life and professional life; motivations to practice and remain in genetic counseling; stages of professional growth or "turning points"; and challenges in working with genetic counseling patients.

We piloted the interview with five female or male genetic counselors working in direct service with patients; they represented each of the three experience levels (novice, experienced, seasoned). Their feedback resulted in minor revisions to a few items to improve clarity.

Procedures

Prior to conducting interviews, the research team "bracketed their biases" (i.e., stated their expectations) about the data as follows: 1) Personal life and professional life are necessarily intertwined and influence each other in powerful ways; 2) Genetic counselor development likely is similar to psychological practitioners; 3) Professional experience does not equal professional competence or optimal professional development, and thus development is unlikely to occur in a linear, precisely predictable way; 4) Development does not occur in isolation but in contact and relationship with others; and 5) Professional development is not synonymous with career development, nor simply completion of continuing education.

The first author conducted telephone interviews over a 6 week period. The interviews were recorded and later transcribed verbatim with identifying information removed.

Data Analysis

Descriptive statistics were calculated for responses to survey items. Interview data were manually analyzed by the first author and an individual with a master's degree in counseling. They used a three-step CQR method (Hill et al. 1997, 2005): inductive development of domains (rationally derived topic areas) and categories within domains, construction of core ideas (interviewees' actual words), and cross-analyses (comparisons across interviews). They independently reviewed two randomly selected transcripts from each participant experience level. Next, they met multiple times to review their classifications, using discussion to arrive at consensus. Then, they independently analyzed the remaining transcripts, meeting throughout the coding process to occasionally modify a domain or category in order to more clearly represent the data. Next, they re-reviewed each transcript to reify that the data belonged in the domains and categories. Finally, the second author audited domains and categories, and disagreements were discussed to reach consensus. As a concluding step, the first author used grounded theory (Hill et al. 1997) to further organize the domains and categories into overarching themes.

Results

Sample Characteristics

Interviewee demographics for the 31 females and three males are presented in Table 1. The sample was primarily European American (32/34), the median age was 38 years (R: 26–58), and the median years of post-degree experience was 9.5 (R: 0.75 – 31 years). They represented all six NSGC regions, and worked in varied settings. The most prevalent practice specialties were: prenatal (13/34), familial cancer risk (13/34), and pediatric (10/34). The vast majority currently practiced at least 20 h per week in direct service with patients or had done so within the past 2 years (31/34). The remaining three each had over 10 years of clinical experience, and two were heavily involved in clinical preparation of students.

Interview Characteristics

Interviews ranged from 26 to 64 min (Mdn=38 min). It was the interviewer's impression that most participants seemed open, forthcoming with their responses, and actively engaged in the interview process. A number of individuals became tearful when sharing their experiences with memorable patients/sessions. Several, however, noted purposely

Table 1 Demographic characteristics of genetic counselor interviewees (N=34)

Variables	Novice (n=10)		Experienced (n=12)		Seasoned (n=12)		Total sample	
	n	%	n	%	n	%	n	%
Median Age (in years)	29		37.5		47.5		38	
Gender								
Female	9	90	11	91.7	11	91.7	31	9.2
Male	1	10.0	1	8.3	1	8.3	3	8.8
Racial/ethnic identification[a]								
Asian/Pacific Islander	–	–	–	–	–	–	1	2.9
European-American/White	–	–	–	–	–	–	32	94.1
Other	–	–	–	–	–	–	1	2.9
NSGC region								
Region 1	1	10.0	1	8.3	0	0.0	2	5.8
Region 2	0	0.0	3	25.0	2	16.6	5	14.7
Region 3	1	10.0	1	8.3	3	25.0	5	14.7
Region 4	4	40.0	3	25.0	4	33.3	11	32.3
Region 5	1	10.0	1	8.3	1	8.3	3	8.8
Region 6	3	30.0	3	25.0	2	16.6	8	23.5
Current practice specialty[b]								
Cardiovascular genetics	1	4.7	1	8.3	0	0.0	2	3.45
Familial cancer risk	4	9.1	4 3	3.3	6	24.0	14	24.1
General genetics	3	14.2	0	0.0	4	16.0	7	12.1
Industry/Clinical lab	0	0.0	1	8.3	0	0.0	1	1.7
Metabolic/Lysosomal storage Diseases	1	4.8	1	8.3	0	0.0	2	3.5
Neurogenetics	1	4.8	0	0.0	1	4.0	2	3.5
Pediatric counseling	5	23.8	1	8.3	4	16.0	10	17.2
Prenatal counseling	5	23.8	2	16.7	6	24.0	13	22.4
Private practice	0	0.0	0	0.00	0	0.0	0	0.0
Psychiatric disorders	0	0.0	0	0.0	0	0.0	0	0.0
Public health	0	0.0	0	0.0	2	8.0	2	3.5
Research	0	0.0	1	8.3	0	0.0	1	1.7
Other	1	4.8	1	8.3	2	8.0	4	6.9

[a] Racial/ethnic identification is reported only for the total sample in order to preserve participant anonymity

[b] Participants could endorse multiple specialty areas

withholding information due to concerns about confidentiality or being overheard at their workplace.

Analysis of Participant Responses to Interview Questions

Data analysis yielded three themes, 11 domains, and 47 categories. Table 2 contains a list of themes, domains, and frequencies. Table 3 contains illustrative quotations, selected to represent the range of data included in each domain. The following sections contain descriptions of themes and domains, along with frequencies for each domain (See Supplemental materials for a table of categories and frequencies aligning with each domain). Prevalence for most domains was similar across experience groups; but noteworthy differences are summarized at the end of each theme. Responses were multifaceted and often classified multiple times.

Theme 1. Genetic Counselors' Evolving Perceptions of Being a Clinician and the Relationship to Their Clinical Work

This theme reflects how participants viewed themselves as clinicians, including what it means to help patients, how to identify and measure success with patients, difficult issues in sessions, and how memorable patients/sessions affected their practice. There are five domains.

Table 2 Themes and corresponding domains extracted from participants' responses

Theme and domains	Total sample (N=34)	Novice (n=10)	Experienced (n=12)	Seasoned (n=12)
Theme 1. Genetic counselors' evolving perceptions of being a clinician and the relationship to their clinical work				
Components of helping	33	10	11	12
Defining and identifying "success" with patients	34	10	12	12
Difficult issues in sessions/Patient challenges	34	10	12	12
Memorable patients	34	10	12	12
Perceived effects of memorable patients	31	8	11	12
Theme 2. Genetic counselors' evolving perceptions of being a clinician in the field and the relationship to their professional identity				
Current motivations to practice genetic counseling	34	10	12	12
Turning points/Catalysts for professional growth	34	10	12	12
Definitions/views of professional development	34	10	12	12
Plans/goals/concerns re: continued professional development	32	9	11	12
Influences of personal life on professional development	34	10	12	12
Career (dis)satisfaction	33	10	12	11
Theme 3. Genetic counselors' evolving perceptions of being a clinician in the field and the relationship to the development of the profession				
There are no separate domains	34	10	12	12

Domain 1. Components of Helping (n=33)

Responses in this domain largely about what it personally means to help people. Several participants commented on the deceptive simplicity of the question, and several mentioned they were not certain they could help all patients or that they knew exactly how to define "helping." Additionally, multiple counselors mentioned "helping" can vary substantially, depending on individual circumstances and patient needs. For example, one novice counselor said, "I feel like I do the most with the people with the worst outcomes." Despite these caveats, most definitions of help included one or more of the following: providing patients with genetic information and working to demystify the genetic counseling and medical process (including coordination of care and suggestion of resources); using psychosocial skills to ease patients' anxieties, support patients through their "roller coaster" of emotions, encourage expression of feeling, and generate meaning from their difficult experiences; and encouraging independence and fostering the tools needed for people to become their own health advocates.

Most interviewees from novice to seasoned counselors described either major or minor changes in their views of helping over time. Multiple counselors described a change from being more information and agenda-driven to more emotion-focused and patient-driven, and reported their definition of helping had "crystallized" and/or deepened; initially they had not anticipated some of the ways they could be helpful (e.g., realizing one can help without a diagnosis, and stressing the importance of self-advocacy to patients). A few mentioned becoming less idealistic about helping and more confident and less anxious in their ability to help.

A majority indicated they had compared their helping ability to that of peers and colleagues, most commonly during the earlier part of their career, although a few did so more recently, and some did so consistently throughout their career. They described their comparison process as partly "human nature" and noted it involved modeling/learning from other genetic counselors and gleaning insights from them. Several used the terms "amazed" or "admiring" of their peers' strengths and insights. A few counselors described themselves as "competitive."

Domain 2. Defining and Identifying "Success" with Patients (N=34)

This domain refers to how participants know or perceive they have helped a particular patient. Indicators of "success" variously included directly observing patients benefiting from genetic counseling (e.g., patient follows medical recommendations and complies with treatments, or expresses understanding of options and basic genetic information provided by the counselor); statements by patients, a colleague, or supervisor that the genetic counselor helped; intuitively knowing or discerning they had "succeeded" with a patient, despite the absence of explicit verbal or nonverbal evidence; when patients return with additional questions or needs; and nonverbal behaviors suggesting patients are satisfied. Despite these indicators, multiple counselors reported sometimes not knowing whether they were successful, and several mentioned learning about success from their "failures," either by contrasting them with "successes," or by learning from painful, difficult situations.

Table 3 Sample quotations illustrating domains within the themes

Domains	*n*	Sample quotation
Components of helping	33	SE: "[Helping] means being an advocate within the medical system and within the community, and sometimes even within [the patient's] own family. It means answering questions…understanding where their concerns are, providing them with accessibility to information or to particular specialists that might be involved in their care…"
Defining and identifying "success" with patients	34	NV: "I guess I feel like I've succeeded with a patient when I can tell that patient truly feels comfortable and they feel empowered to make a decision for themselves. For me it's not about being able to say, 'This is something you should do or something you shouldn't do;' if that's what it comes down to, then I feel like I haven't done my job. I feel as though patients really need to take the information and run with it, because only they can make the best decision for themselves."
Difficult issues in sessions/Patient challenges	34	EXP: "…I think that I do feel uncomfortable once in a while counseling people of different cultures, because I don't have a lot of experience in counseling individuals that aren't Caucasian American, and so I sometimes wonder if I'm reaching them appropriately, and then I wonder if that's a stereotypical way of thinking or not, but cultural differences sometimes make me just question what they're getting from the information, or if it's useful to them."
Memorable patients	34	SE: "I had a patient from another country who had gone to great lengths to come to the U.S., because she just could not get answers in her country…[She] came here to get some answers and have another pregnancy. We figured out what the situation was. She became pregnant, we monitored the pregnancy, and by a pretty early ultrasound, identified that it was another affected fetus, her third…And at the follow-up visit she gave me some items—I'm going to cry telling this—she gave me some things that she had brought with her from her country, and she said, 'I want you to have these because I brought them to give to the person who would help me' [teary]. And it happened to be a [holiday decoration] …and I hang it up every year…"
Perceived effects of memorable patients	31	SE: "[My memorable patient] brought firsthand…to me the intensity of termination...I think it's the hardest decision couples will ever have to make… I think it's harder than divorce [laughs]…And I don't hesitate to tell them how difficult I think the experience will be…And it will have a tremendous impact on them for some time to come…
Current motivations to practice genetic counseling	34	EXP: "I really like the sense of being an advocate in the medical field, being somebody who provides useful information that really can have an impact on people that they wouldn't be able to normally get otherwise, or just really being able to communicate with people and help them explore how all this information impacts their life other than just getting a particular diagnosis …"
Turning points/Catalysts for professional growth	34	NV: "I think as you grow as a counselor you learn a lot of things throughout the process and I think you change your style a little bit. When you're right out of school, you do things like you learned in school and you say things that supervisors said to them [sic] in school, and then I think as you do more and more on your own to get more experience, you start to fine tune that into your own personal sessions. So, yeah, I do think I do things differently now."
Definitions/views of professional development	34	SE: I think professional development is learning from your successes and learning from your failures or your not-so-good successes…[and] learning what you're good at and what you're not so good at…It's a combination of learning your strengths and your weaknesses, finding ways to use your strengths everywhere possible and trying to find ways to mitigate your weaknesses and often that's by finding other people who you can get [to see] do those parts…"
Plans/goals/concerns re: continued professional development	32	SE: "[I plan] to continue options for education and continue to encourage health care providers to be thinking about genetics and its contributions to disease…so I would like to see myself be doing more of that sort of overall education approach as opposed to primary inpatient or patient care genetic counseling. [My fears are that] money in health care continues to be

Table 3 (continued)

Domains	*n*	Sample quotation
		tighter and options and supports that are considered ancillary…just also aren't given the support that could help the [training] program or initiatives to grow."
Influences of personal life on professional development	34	EXP: "…[A] profound sense of sort of loss and grief that I felt when going through a divorce was something that I actually do think helped me understand a bit of sort of a sense of loss of control, and personal emotional struggles…that a lot of patients feel…"
Career (dis)satisfaction	33	EXP: "I've always loved what I do. My satisfaction has always typically been very high. Have there been lows in that high? Has there ever been a moment where I've hated what I do or thought that I should leave the field? Never in my mind have I said 'Oh, I'm so miserable in genetic counseling, I need to leave.' Have I said 'Okay, what might I be able to do differently maybe not as a clinical counselor, but can I take the skills that I have, and is there anything out there that might interest me otherwise? Do I want to get involved in public policy? Do I want to get involved in public health?' Usually my answer ultimately ends up being 'No'…There have also been times in my career where I may not have been happy in a particular position. In those cases, I've always either made changes so that I wouldn't be unhappy …within that position, or I've moved on…I would say that I am in a good place right now. In the last 2 years, I've had a huge personal and professional shift, in [completing a leadership role in a professional organization] changing my identity…having a new job, living in a new location…I'm rejuvenated, I love what I'm doing, and because of that I'm sort of recreating what exciting thing I can do next within my profession and within my career."
Genetic Counselors' Evolving Perceptions of Being a Clinician in the Field and the Relationship to the Development of the Profession[a]	34	NV: "I think I've probably started to think bigger than I ever did when I first got out of school or first even started into school…Like pushing the envelope with what you want to do, and trying to, and especially in my current job, grow—grow the profession and to be standing with our colleagues, I think there's certain pockets of respect that are there, but a lot of people don't even know we exist yet…I think that piece has changed…[I find myself] kind of wanting to define that more for others."

SE Seasoned practitioner (≥15 years), *NV* Novice practitioner (0–5 years), *EXP* Experienced Practitioner (6–15 years)

[a] As there were no separate domains for Theme 3, this example represents the theme

When asked how their definitions of "success" evolved over time, many counselors described relying less on their own predetermined agendas with patients and increasingly defining "success" relative to patients' individual needs and emergent responses in sessions. Similar to Domain 1, they noted increased awareness of and attention to patient emotional needs during counseling, needs the counselors might not have originally anticipated. A few indicated they no longer needed to be *liked* or considered "nice" in order to be "successful." Multiple interviewees, however, expressed that their views had not changed substantially.

Domain 3. Difficult Issues in Sessions/Patient Challenges (*n*=34)

Data in this domain describe difficult or threatening genetic counseling sessions. The issues varied and included patient variables (their personalities, emotions, and expectations); the genetic counselor's emotional responses during sessions; "not knowing" or being unable to identify or provide answers or diagnoses; a lack of concrete evidence to determine whether some patients "get it"; insurance and billing issues; and challenges related to cross-cultural genetic counseling (e.g., varying concepts regarding health issues, and assessing patient understanding).

Many but not all counselors indicated these issues have changed over time. Several described becoming more adept at and comfortable with the psychosocial aspects of genetic counseling, and therefore being able to shift focus from information provision to the "human" needs of their patients *in the moment*. Several described discomfort with uncertainty earlier in their career, to the point of being apologetic (e.g., when a diagnosis was not available, or they did not know an answer); they were now more comfortable admitting when they do not know an answer and expressed a belief that patients appreciate their honesty and resourcefulness.

Multiple counselors noted that while issues they experience as difficult remain ongoing challenges, they have found

external and internal support mechanisms for dealing with them. For example, one participant (seasoned, 25 years' experience) said giving "bad news" to patients continues to be difficult and she still cries sometimes when doing so, but she feels it is not quite as overwhelming each time, as she has learned how to seek the support she needs in order to "cope with it in [her] own heart and still do a good job for the family." Finally, four participants (2 novice, 2 seasoned) commented on learning to take matters "less personally."

Domain 4. Memorable Patients (*N*=34)

Descriptions of memorable patients involved: existential questions and personal feelings about life, death, and being human; questioning one's responses, including reconsidering and deeply exploring one's own uncertainty, doubt, fear, and discomfort, and/or handling of ethical dilemmas; patients' negative feelings (e.g., anger) directed at the counselor, the medical field, the diagnosis, or situation; participants' self-assessment that they had been particularly helpful (e.g., able to solve a problem for a patient, correct another medical professional's mistake). There also were a few idiosyncratic examples (e.g., physical violence during a counseling session). Although not prompted to do so, some participants explained their selection, which variously included: a "good" outcome, a session that "did not go well," a recent case, a first experience, a shocking and/or emotionally powerful experience, and a case that lacked closure (wondering how the "story ended" for a patient).

Domain 5: Perceived Effects of Memorable Patients on Clinical Work (*n*=31)

Across years of experience, nearly everyone indicated that memorable patients affected their future clinical work. Prevalent responses included increased self-knowledge as they reflected upon themselves as professionals (including knowledge of their own limitations, triggers, confidence, and awareness of their role as a genetic counselor); and extrapolating learning from memorable patients and sessions to make specific changes in how one practices. Two novice and one experienced counselor indicated that their work had not changed as a result of these memorable patients. Every seasoned counselor indicated that their clinical work had changed somehow as a result of memorable patients.

Similarities and Differences Across Genetic Counselor Experience Levels for Theme 1

Despite the many similarities in responses across experience levels, there are a few noteworthy differences. Seasoned participants described a wider range and depth of experiences, particularly related to memorable patients and how those patients affected their later clinical work. In measuring "success" with patients, a greater number of experienced and seasoned participants acknowledged they may not know whether they have succeeded with patients, and that they may not succeed. More of the novice and experienced counselors commented on cultural differences between themselves and their patients compared to seasoned counselors.

Theme 2. Genetic Counselors' Evolving Perceptions of Being a Clinician in the Field and the Relationship to their Professional Identity

This theme focuses on participants' experiences of their roles as genetic counselors, including career satisfaction, professional goals, and how their personal lives have influenced their professional development. There are six domains.

Domain 1. Current Motivations to Practice Genetic Counseling (*N*=34)

Nearly everyone expressed *initially* being drawn to the field in order to pursue an interest in science/genetics and to "help people." Current motivations for most were similar to or extensions of these original motivations, including an interest in/aptitude for science, desire for interpersonal interaction, and a desire to more quickly move forward with one's career (as opposed to, for example, going to medical school). They noted enjoying opportunities to develop relationships with and help patients; the novelty of information and growth of the field; fascination with genetics and intellectual stimulation from the challenges to learn and convey complex information; and the personal importance of providing education to others.

Domain 2. Turning Points/Catalysts for Professional Growth (*N*=34)

This domain reflects participants' perceptions of key changes or pivotal points in their development as professionals during their career. They described both major events they viewed as instrumental in their growth and more gradual changes they noticed retrospectively. Overall, growth was gradual, punctuated by occasional key moments. Nearly everyone expressed that over time and with experience they gained confidence in their role, in their counseling skills, with patients, etc. Several also mentioned becoming more efficient and resourceful, particularly compared to their time as students. Many described "learning beyond one's training," that is, learning on the job and/or through personal life experiences. For example, one novice counselor noted, "In school, you learn a little bit from all different fields, and [my specialty area] is obviously very, very specialized, so I feel like I'm continuously learning new information"; she also described how her practice evolved as

she developed competency: "Now that I feel as though I've mastered some of what I talk about during my sessions, I'm much more able to concentrate on the emotional aspect of things, and so I feel that my practice has maybe changed in that way. It's much more emotionally based now than it used to be." Several counselors commented that portions of their growth diverged from what they learned in their genetic counseling training programs.

Prevalent catalysts involved: job changes due to personal factors (e.g., relocation due to family circumstances) and/or professional factors (e.g., frustration with one's job, wanting a specialty); gradual increases in confidence over time and experience that "freed them up" to focus on patients' emotional and psychosocial needs rather than their own agenda; involvement in national professional organizations; external validation by others (including supervisors), and/or "official" recognition (e.g., one participant noted her professional development is divided into "before boards and after boards"). While many professional changes were in a positive direction, some comprised gradual changes suggesting burnout.

Domain 3. Definitions/Views of Professional Development (*N*=34)

This domain concerns participants' views of what "professional development" means, with some attention to how it occurs—primarily for them personally, but also how professional development occurs generally in the field. Many associated professional development with one's skills, particularly clinical skills with patients. They described a trajectory of increasing competence and confidence in their abilities to work with a wider variety of genetic conditions and patient presenting styles, and to deal with unexpected issues. A number of interviewees mentioned discovering areas of genetic counseling they did not realize existed, and expanding their views of what genetic counseling is and what their roles are. Many noted professional development is partially or wholly about career advancement—moving up the "career ladder" and/or other external components of one's position and profession (e.g., salary, title). Multiple participants reported feeling stuck and/or limited by a perceived lack of opportunities in genetic counseling; others variously described creating opportunities for oneself to maintain career satisfaction, openness to role flexibility and unexpected opportunities, and learning one's own strengths and limitations.

A number of counselors described minimal or no changes in their definition, while some noted their definition is now more nuanced, complex, and unique to their own growth. A few commented they either did not know what professional development meant upon graduation or they originally had a narrow definition (e.g., "maintaining one's CEUs"). Some counselors specifically commented on their views of professional development broadening to activities beyond clinical work (e.g., assuming administrative roles or responsibilities in professional organizations).

Nearly half of the sample described their professional development as resulting from both deliberate experiences and unexpected ones. Examples of deliberate experiences included seeking out networking opportunities, attending peer group supervision, keeping current on genetic counseling literature, attending professional meetings, and consciously modeling one's professional activities after those of a senior mentor/colleague. Unexpected experiences involved interactions they did not initiate deliberately (e.g., a different boss, patient, a case beyond the scope of the literature, difficult interactions, colleagues' expertise, and psychosocial interactions and dynamics). Whether deliberate or unexpected, participants mentioned self-reflection about these experiences as key to their professional development.

Domain 4. Plans/Goals/Concerns Re: Continued Professional Development (*n*=32)

Participants described hopes and plans for their future professional development and concerns about accomplishing their plans. Goals were unique to each individual. For many, they represented efforts to either improve professionally (e.g., taking on or letting go of roles/responsibilities, maintaining satisfaction in and energy for the field to avoid burnout, remaining open to learning, improving specific skills and seeking additional training). Other prevalent goals represented efforts to become more "other-focused," educating others about the importance of genetic counseling, or through specific clinical/patient-related goals, and/or helping to make the field of genetic counseling more relevant in the current information explosion. Concerns about reaching their goals included funding issues, life events, lack of institutional support, fear of failure, uncertainty about giving up a current position, burnout, knowing when to retire, how to balance life roles, and worry the field will become obsolete.

Domain 5. Influences of Personal Life on Professional Development (*N*=34)

This domain concerns influences of personal life experiences on professional development. Personal life experiences influenced development in positive and negative ways. These influences variously affected genetic counselors' relationships with patients, their views of themselves, their career/job choices, and relationships with colleagues. Prevalent types of life events included parenting, as many participants noted becoming a parent changed their work and/or their perspective at work; marriages/partnerships (including the dissolution of such); having family members with genetic disorders and/or mental illness; and dealing with one's own minority status (e.g., sexuality, ethnicity, etc.).

Many counselors indicated personal events prompted them to reflect on their well-being and to subsequently develop self-care strategies for coping with difficulties and/or set boundaries between their career and personal lives. A number mentioned certain life experiences affected their ability to empathize with patients, most often positively (e.g., experiencing infertility and consequently being able to better relate to patients with similar issues). For a few, however, the effects were less positive (e.g., struggling to empathize with patients and needing to shift specialties after experiencing issues with which their patients were dealing). Several counselors described not having children, which they perceived as decreasing their ability to empathize with patients compared to their colleagues who are parents. A few individuals noted no/little impact of personal life on their professional development (3 novice, 2 experienced, 1 seasoned counselor).

Domain 6. Career (Dis)Satisfaction (n=33)

Many interviewees expressed being consistently satisfied throughout their career. Others were fairly evenly divided into being more satisfied now than in the past, less satisfied presently, and vacillating over the course of their career. Multiple counselors said they had either seriously or ephemerally considered leaving the profession, most commonly to pursue further education or to pursue family interests. Perceived causes of career dissatisfaction included inability to bill, lack of respect from medical professionals and health care administrators, instability of funding/budget cuts, financial compensation, the emotional drain of certain types of patient interactions, ever-increasing paperwork, and lack of autonomy in one's current position.

Similarities and Differences across Experience Levels for Theme 2

Many similarities existed across experience levels. For example, participants at each level described similar motivations to practice genetic counseling, definitions/views of genetic counseling, and types of catalysts for growth, such as job shift(s) and involvement in national organizations (although fewer novice practitioners spoke about the importance of such involvement compared to experienced and seasoned practitioners). Differences were most salient in the "Influences of Personal Life on Professional Development" domain. With more life experience, seasoned practitioners described more ways in which their personal lives had intertwined with and affected their professional work. Other noteworthy differences include more novice counselors describing consistently high satisfaction with their career (see table in supplemental materials); and multiple seasoned counselors expressed that the field is "completely different now" than it was when they began (e.g., increased demands of insurance paperwork, and specific genetic advances that have changed the nature of their jobs).

Theme 3. Genetic Counselors' Evolving Perceptions of Being a Clinician and the Relationship to the Development of the Profession

This theme reflects participants' views about the development of the profession as a whole and its relationship to their professional development and how they function in their jobs. The data include some attention to evolution of views over time, not simply static views at the time of the interview. There are no separate domains.

A few counselors described a parallel process between their professional development and development of the field of genetic counseling. Many expressed both positive and negative views including: broadening perspective of one's job by shifting away from clinical work to tackling new problems they did not previously know about or feel trained for (e.g., billing/licensure, NSGC issues, etc.); learning how to stay current on rapidly proliferating genetic information; and a perceived professional "glass ceiling" within the profession. Some were hopeful about the future of genetic counseling, while others expressed concern about its viability. A number of counselors mentioned the importance of extending and "growing" the profession, recruiting, retaining, and training sound practitioners, and educating their communities about genetic counseling.

Multiple interviewees commented that nondirectiveness had become personally more salient over time. Some described changing perceptions of themselves and their personal expectations of being a genetic counselor. Some realized and accepted that they cannot help everyone; several grew to view themselves as part of a treatment team, thus accepting they are not the only ones helping patients. For many, changes occurred gradually, while some described pivotal turning points. A few idiosyncratic responses included one's view of being a genetic counselor had changed little or not at all, and feeling content with one's views over the years.

Similarities and Differences across Experience Levels for Theme 3

Genetic counselors from all experience levels variously mentioned optimism and pessimistic uncertainty about the future evolution of genetic counselors' roles and jobs. Their perspectives included fear about the future, particularly as genetic information continues to proliferate rapidly, and concerns about billing and licensure. A major difference among experience levels was participants' description of their understanding of the field of genetic counseling over time. Seasoned counselors and some experienced counselors commented on

ways in which practicing genetic counseling now is vastly different than in the past [e.g., due to technological advances, and the accurate and inaccurate knowledge patients now have access to outside of genetic counseling). More seasoned practitioners also commented on being the only genetic counselor in their workplace for years, though all experience levels mentioned solo practice can be impactful.

Discussion

Thirty-four novice, experienced, and seasoned genetic counselors participated in semi-structured interviews designed to explore the nature of genetic counselor professional development and whether professional development varies as a function of experience level. Key findings are discussed and then framed according to a proposed model of genetic counselor professional development. Study strengths and limitations, training and practice implications, and research recommendations are presented.

The Nature of Professional Development

Definitions of Development and Helping

Participants conceptualized professional development as relating to skill development, broadening the scope and view of one's practice, and career advancement, and they shared their views of what it means to help. Their views are congruent with the Reciprocal-Engagement Model of genetic counseling practice (REM; McCarthy Veach et al. 2007) which characterizes three primary ways of helping: providing information and resources, providing emotional support, and facilitating autonomous and informed decision making. Counselors across all experience levels described various "ways of knowing" or assessing whether they have been successful with patients, including external, explicit patient feedback and more intuitive indicators (a "gut feeling"). Many participants described changes in their views or definitions of helping, including broadening their definition, adjusting it to include more attention to psychosocial components, and/or becoming less idealistic over time and experience. These changes are consistent with prior genetic counseling research (Runyon et al. 2010). As they accrue "successes" and "failures" with patients, one might expect genetic counselors would revise their view of helping and personal expectations.

Developmental Influences, Processes, and Outcomes

Many participants referenced colleagues as highly valued sources of influence. They also described ways in which their clinical experiences (including challenging and/or memorable patients) directly contributed to their professional development. Their responses suggest that the influences of "patients as teachers" cannot be overstated. The influences were largely positive, even when the interactions were difficult at the time. These results are congruent with a number of self-reflective reports (cf. Defining Moments essays, *Journal of Genetic Counseling*, 2002, 2010) and with the models of therapist professional development (Orlinsky et al. 2005; Ronnestad and Skovholt 2003) informing this study. They are also congruent with prior research showing interpersonal influences are integral to genetic counselors' growth (cf. Runyon et al. 2010).

Yet not all outcomes were positive. Consistent with literature (cf. Abrams and Kessler 2002; Resta 2002), participants at all experience levels commented on providing "bad news" to patients. Some "took on" responsibility for how their patients feel and their (and the field's) inability to always provide answers. Genetic counselors, arguably more so than many mental health counselors, experience patients' suffering in acute ways and thus may be at increased risk for compassion fatigue and burnout (cf. Injeyan et al. 2011; Lee et al. 2014). Mental health counselors typically engage with clients in the aftermath of painful life experiences such as sexual abuse, trauma, death, facing a terminal illness, violence, etc. Thus, they usually are not the messengers of these experiences. Conversely, genetic counselors often are in the position of providing news about life, death, and health matters a patient had never considered or imagined.

A number of participants mentioned interest in new scientific information as a primary catalyst for their ongoing development. Another prevalent turning point was job shifts, some of which were due to professional aspirations, while others were due to personal life considerations. Other important influences included voluntary engagement in professional activities, educating others about genetic counseling, and external acknowledgement of one's growth.

Personal life experiences also influenced participants' professional development, specifically affecting their self-understanding and reactions to patients and their work. Most of these experiences led to positive growth (e.g., increased self-care and boundary-setting). Personal life experiences also affected empathy for patients. For most counselors their empathy deepened, but some perceived a lack or loss of empathy, which we speculate might arise from unmanaged burnout or countertransference.

Across experience levels, multiple counselors commented on anxiety, specifically noting decreased anxiety and increased confidence. Nearly everyone described feeling more confident as they accrued experience. Perceptions of deepened empathy, less anxiety, and increased confidence were also identified as important "on the job learning" by Runyon et al. (2010).

Consistent with professional development studies (Ronnestad and Skovholt 2003; Runyon et al. 2010), the

participants integrated more of themselves, personal values and directive or nondirective style into their work with patients, suggesting they are increasingly crystallized in their approaches as they develop professionally. Moreover, they expressed increased appreciation of how they can help without having a diagnosis or "all of the answers."

Although developmental processes and general influences were quite similar for participants, the combination of influential events was unique to each person. Development often arose from "chance occurrences," which Krumboltz (1998; Krumboltz and Levin 2004) terms "happenstance." Happenstances are chance events whose impact depends upon the openness and attitude with which one approaches them. Some turning points were not necessarily major or identifiable at the time. Indeed, many counselors mentioned "gradual, incremental" positive and negative changes they eventually realized through retrospection.

Participants continually identified self-reflection as critical to professional development. These findings align with literature suggesting optimal growth occurs when experience is accompanied by reflection in order to translate information from one's experiences into professional change (e.g., McCarthy Veach and LeRoy 2012; Resta 2002; Zahm 2010). Absent sufficient reflection, genetic counselors arguably are "running in place" (Zahm 2010, p. 355).

As expected in this self-selected sample, overall career satisfaction was high. Similar to Abrams and Kessler's (2002) view of professional identity development, some counselors described a parallel process between their development and that of the genetic counseling field. A number of individuals had considered leaving the field but elected to stay, and some noted vacillations in their career satisfaction. Career "dissatisfaction," was prompted by different factors (e.g., emotional impact of clinical work, lack of respect from medical professionals) and seemed more prevalent among more experienced counselors. Lacking longitudinal data, however, conclusions cannot be made regarding satisfaction and experience level.

Views of the Profession

The participants differed in their views about changes in the profession, the extent to which they feel connected to/involved with professional organizations, and their attitudes about the profession's future. Some described a "glass ceiling" for their own opportunities, and some of those participants also described a "glass ceiling" for the field in general, expressing concern for its viability during times of medical change. Others described hope for the future of the profession and excitement about changes. Expressions of hope were relatively even across the sample, suggesting it related more to attitudes than experience level.

Experience Level and Professional Development

Professional development processes, influences, and outcomes generally were similar across novice, experienced, and seasoned groups. The most notable differe concerned seasoned practitioners reporting a wider range and depth of clinical experiences, more ways in which their personal lives had intertwined with and affected their professional work, and perceptions of the field as quite different from when they began. These findings suggest temporal influences (i.e., over time, one accrues more experiences).

Genetic Counselor Professional Development: A Proposed Model

Overall, the findings support prior assertions (e.g., Defining Moments essays, *Journal of Genetic Counseling*, 2002, 2012; Runyon et al. 2010) that *experience* in combination with *reflection upon* that experience (through introspection, self-reflection, informal discussions with colleagues, or other means) is essential to professional development. Moreover, professional development is an on-going, non-linear, and gradual process, with "defining moments" or key events providing additional "bursts" of influence. Professional development processes, influences, and outcomes are reciprocal, suggesting changes in one area may promote changes in other areas. Figure 1 depicts a proposed model of genetic counselor professional development comprised of themes and domains extracted from the genetic counselors' responses.

The notion of ongoing mutual influence suggests positive gains in one area may prompt positive development in others. Similarly, negative development in one area may shape negative changes in other areas. For example, if a genetic counselor fulfills a personal motivation (Theme 2, Domain 2) by involvement in a professional organization and finds meaning and value in developing policy, these experiences might positively affect her or his view of the field of genetic counseling as a whole (Theme 3) and help the counselor feel more empowered in addressing difficult issues with patients (Theme 1, Domain 3). Likewise, if a genetic counselor encounters a number of difficult challenges in sessions with patients and begins to display signs of compassion fatigue, these experiences might negatively affect her or his view of the field of (Theme 3), and influence his/her personal life experiences through increased irritability and/or struggles with loved ones (Theme 2, Domain 3).

Study Strengths and Limitations

This is the first study to systematically and comprehensively investigate genetic counselor professional development. The cross-sectional design allowed for comparisons across a wide range of experience levels, and the rich and nuanced findings

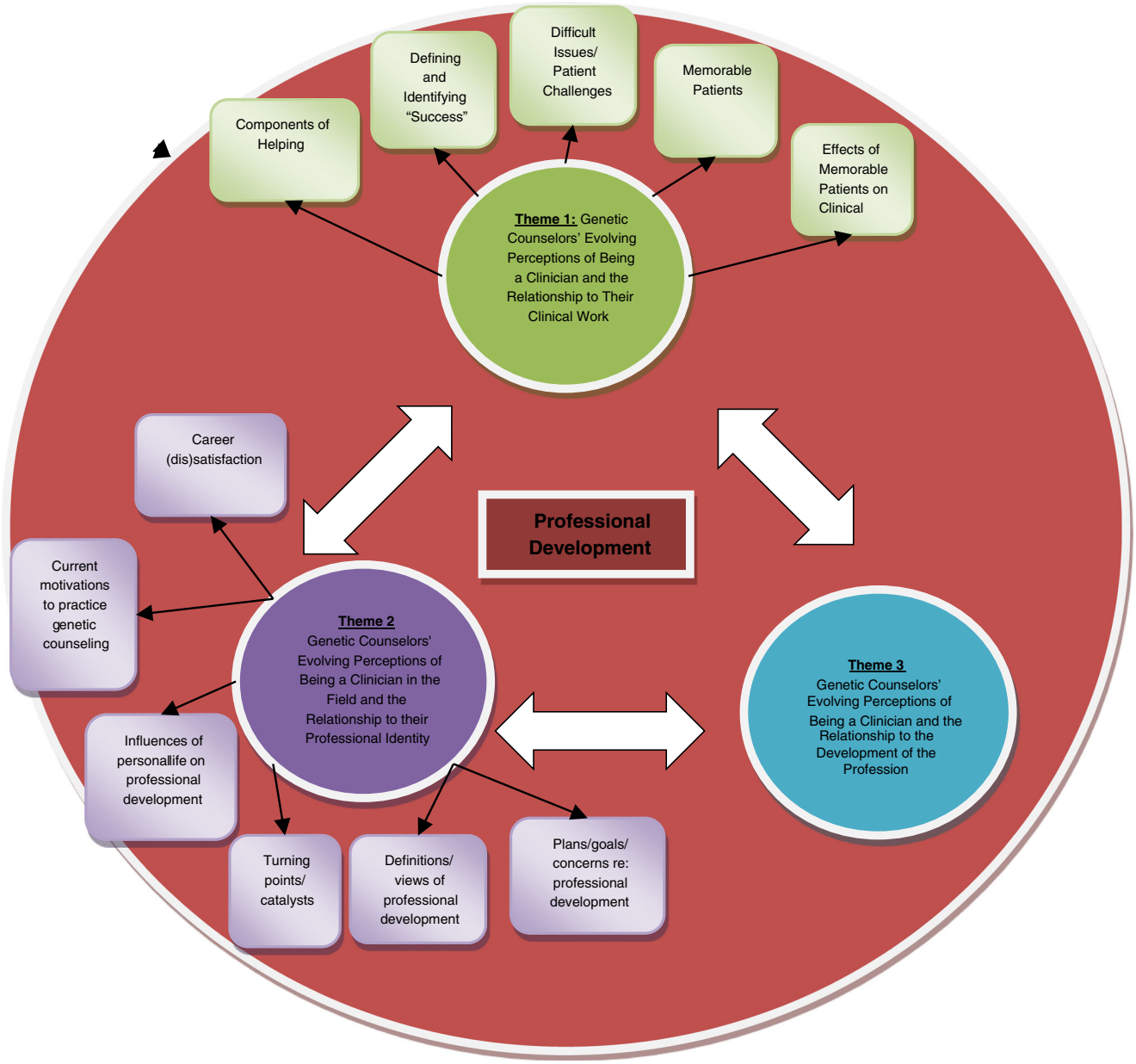

Fig. 1 Visual representation of proposed model of genetic counselor professional development. The *circles* represent the three themes. The *squares* represent the 11 domains. The *arrows* represent the mutual influences among the themes in genetic counselor professional development

suggest fruitful areas for future research. Despite these strengths, qualitative data are not intended to be generalized to the population of interest. It is unknown to what extent participants are representative with respect to their interest in discussing professional development and in their satisfaction with their professional development. Additionally, participants were primarily females who identified as European-American. Although these demographics mirror the genetic counseling population in North America (NSGC 2014), the voices of males and/or racial/ethnic minorities are important.

Additional limitations concern the interview protocol. When responding to questions about personal experiences and their influences, some participants focused on major events, rather than reflecting upon how everyday life events may have cumulative effects. This limitation seemed particularly characteristic of less experienced counselors. The interview guide was informed by two practitioner development models from psychology (Orlinsky et al. 2005; Ronnestad and Skovholt 2003) which may not fully characterize genetic counselor development. Finally, the study focused on genetic counselors who provide clinical services to patients. Generalizability of the findings to genetic counselors in non-clinical roles is unknown.

Practice and Training Implications

The present results may help to normalize professional development by providing students and counselors with information about typical experiences such as: (a) Personal life powerfully influences professional development; (b) Experiencing "ups and downs" in career satisfaction is not uncommon; (c) Professional development experiences often are gradual and noticed through self-reflection; (d) Anxiety about clinical work often dissipates over time; (e) With more experience, genetic counselors tend to focus less on their own agendas in sessions and more on empathizing with patients and addressing their psychosocial needs; (f) Practitioners grow in multiple ways by integrating learning from memorable experiences with patients into their clinical work; (g) Self-care is necessary to manage clinical demands and achieve work-life balance; (h) Professional development opportunities can be deliberate (intentionally sought) or arise from happenstance; (i) There is no endpoint to professional development; and (j) "Professional development" is not synonymous with "career development"; professional development builds upon career opportunities/experiences (and/or lack thereof) combined with self-reflection and integration of experiences.

Four noteworthy, data-driven recommendations emerge from the results: (1) *Engage in and/or advocate for professional discussions and research on genetic counselor development*. These activities may contribute to optimal development and the prevention of "negative development." (2) *Incorporate literature and related activities on professional development in genetic counseling curricula and clinical rotations*. Training programs and clinical supervisors should "set the stage" for life-long professional development by helping students understand and appreciate the phenomenon and develop skills to promote their growth. (3) *Discuss professional development opportunities with colleagues*. Sharing professional development experiences and processes may point to additional ways to create additional meaningful opportunities for one's colleagues and for others in the profession. *(4) Model, engage in, and stress reflective practice*. Allocating time, seeking support, and learning ways to reflectively integrate one's experiences into practice are critical to professional development. Given the power of interpersonal influences on genetic counselor professional development, reflective practice could occur through student supervision and peer supervision/consultation (Zahm 2010; Zahm et al. 2008).

Research Recommendations

Research is needed to validate and refine the proposed professional development model. Longitudinal studies that include underrepresented groups (e.g., ethnic minorities, males, counselors in non-clinical roles) would provide a fuller picture of changes over time for the genetic counselor population. Future studies could further characterize "optimal development" and identify factors that promote and hinder growth. While most participants seemed motivated and committed to their work, evidence suggestive of burnout, compassion fatigue, and disillusionment with the field also emerged. Personal and environmental factors affecting these phenomena should be examined. In this study, we examined counselor views of success with patients; assessments of counselor skillfulness as a function of professional development would provide a more nuanced understanding of genetic counseling outcomes. Some participants appeared to conflate professional development and career development. Although related, these are distinct phenomena that bear further investigation. Finally, literature in other counseling-related fields may be informative in studies of genetic counselor development [e.g., nursing (Andrew et al. 2011; Bournes and Ferguson-Pare 2007; Marlow et al. 2008; Nelms 2005; Shen and Spouse 2007) and teaching (Avalos 2011; Catapano 2005; Farmer et al. 2003; Melber and Cox-Petersen 2005; Richter et al. 2011)].

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Compliance with Ethical Standards

Conflict of Interest Kimberly Zahm, Patricia McCarthy Veach, Meredith Martyr, and Bonnie LeRoy declare they have no conflict of interest.

Ethical Treatment of Subjects All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000.

Human Studies and Informed Consent No human studies were carried out by the authors for this article

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

Appendix

Interview Guide

1. What motivations and considerations originally led you to become a genetic counselor?
2. What motivations are you aware of in your current genetic counseling practice? [Prompt: What motivates you to continue in your current genetic counseling practice?]
3. What sequence of steps has there been in your development? Have there been important periods of change or 'turning points' that distinguish different phases in your work as a genetic counselor?
4. What does the term "professional development" mean to you? How has that meaning changed for you over the course of your career?

5. Would you describe your professional development as resulting from conscious efforts (seeking out opportunities, for example) or less conscious processes that you recognize retrospectively?
6. What does it mean to you to "help" people as a genetic counselor? How has this definition changed for you, if at all, over the course of your care?
7. Has comparing your own ability to help others to other genetic counselors' ability to be helpful been an issue for you in your career? If so, when? Please elaborate.
8. How do you know when you have "succeeded" with a patient? How has this definition or view changed for you, if at all, over the course of your career?
9. How have your ideas about doing genetic counseling and being a genetic counselor changed during the course of your career?
10. Do you see genetic counseling becoming more complex or simple for you as you have gained experience? Please explain.
11. What issues do you find difficult or threatening to deal with in the genetic counseling sessions that you do? How have these changed over time, if at all?
12. Tell me about a patient or genetic counseling session you'll never forget.
13. How have events in your personal life affected your professional development?
14. How would you describe your satisfaction with your career as a genetic counselor throughout the course of your career? How would you describe your current satisfaction with your career as a genetic counselor? Have you ever considered leaving the field of genetic counseling? Please elaborate.
15. What is your main goal or aspiration for your development as a genetic counselor over the next few years, and what is your main concern or fear in this regard?
16. You have described some of your own PD processes. To what extent do you believe your processes have been similar to or different from other genetic counselors?

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