From Graduate to Seasoned Practitioner:

A Qualitative Investigation of Genetic Counselor Professional Development

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In describing researchers who choose to use qualitative methods, particularly CQR, Clara Hill et al. (1997) write, " [they] need to have patience, attentiveness to detail, tolerance for change, flexibility, ability and openness for negotiation, and an eagerness to learn about the specific topic under investigation" (p. 564). Caitlin Chun-Kennedy embodies all of these descriptors, gave so freely of her time, and was so motivated to learn about qualitative research while being such a supportive fellow researcher and friend. It was fun to spend weekend mornings in Gettysburg discussing ideas, analyzing the data, and repeating the term, "consensual qualitative research."

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Dedication

To Dave and To My Family

Abstract

Research on professional development processes can contribute to individuals' anticipation and normalization of developmental processes, to improved training and supervision, and to the creation of a wider breadth and depth of professional development opportunities and support in the field. Presently, no comprehensive studies of genetic counselor professional development have been conducted. In the present study 34 post-degree genetic counselors from all six National Society of Genetic Counselors practice regions in the United States and Canada participated in a semi-structured telephone interview about their professional development experiences. Five major research questions were investigated: (1) What constitutes professional development for genetic counselors? (2) How do these professional development processes occur for genetic counselors? (3) What facilitates and/or impedes professional development? 4) How does genetic counselor professional development vary as a function of experience level? and 5) How does genetic counselor professional development compare/contrast to psychotherapist development described by Skovholt and Ronnestad (1992a)/Ronnestad and Skovholt (2003) and Orlinsky et al. (2005)? Participants were purposefully sampled from three levels of post-degree genetic counseling experience: novice (0-5 years), experienced (6-14 years), and seasoned ($\geq$ 15 years).

Using a modified version of Consensual Qualitative Research (Hill et al., 2005; 1997), three themes, 12 domains, and 47 categories were extracted from data. The themes are: 1) Being a clinician: Genetic counselors' evolving perceptions of and relationships to their clinical work; 2) The field itself: Genetic counselors' evolving perceptions of and

relationships to the field of genetic counseling; and 3) Being a clinician in the field: Genetic counselors' evolving perceptions of and relationships to their role as a genetic counselor

A preliminary model of genetic counselor professional development is proposed. The model suggests development processes occur throughout the professional lifespan, each component of professional development mutually influences the others, and there are both positive and negative avenues of development. For instance, personal life and professional life mutually influence each in important ways. Participants rated 15 influences on their professional development (adapted from Orlinsky et al., 2005). Within and across experience levels, and consistent with Orlinsky et al.'s (2005) findings, sources of interpersonal influence ("experiences in genetic counseling with patients" and "working with genetic counseling colleagues") were rated as highly important. The findings also were largely consistent with Skovholt & Ronnestad's (1992a / 2003) therapist model (anxiety in early practice dissipating over time, personal life affecting professional development, etc.), with a few notable differences (including unique challenges of frequently delivering "bad news" to patients, and the parallel process between individual counselors' professional development experiences and genetic counseling's development as a relatively young field. Major findings, study strengths and limitations, and practice, training, and research implications are discussed.

Table of Contents

List of Tables

List of Figures

CHAPTER ONE

Introduction

With the recent mapping of the human genome and ever-evolving medical technologies, genetic counseling is becoming an increasingly important and sought after service in hospitals, community clinics, and other settings. However, in the National Society of Genetic Counselors' (NSGC) most recent biannual Professional Status Survey, 15% of genetic counselors indicated that they were considering leaving the field, with 46% of those respondents citing "burnout" as a primary contributing factor (Parrott & Del Vecchio, 2006). Clearly, these figures are disconcerting and in need of investigation in order to address genetic counselors' concerns. For instance, it has been shown that genetic counselors face unique challenges in their work that may place them at risk for compassion fatigue and/or burnout (Benoit, McCarthy Veach, & LeRoy, 2007; Udipi, McCarthy Veach, Kao, & LeRoy, 2008). However, little is known either about protective factors that keep 85% of genetic counselors actively engaged in their profession, or those factors that impel 15% to consider leaving the field. Studies that address these issues may help the genetic counseling field better understand the characteristics, needs, and challenges of its practitioners.

Related human service fields, such as nursing, education, and counseling/therapy have attempted to address similar issues by gaining a more comprehensive and nuanced understanding of their practitioners' growth processes throughout their professional lifespan. These fields have experienced a recent proliferation of literature discussing theories and research concerning their respective practitioners' professional development.

One outcome of these efforts is the creation of models of professional development describing practitioners' growth processes from graduate school to retirement.

Professional development models in counseling and psychotherapy. Skovholt and Ronnestad (1992a; Ronnestad & Skovholt, 2003) proposed a comprehensive model of mental health practitioner development. Their body of work in the 1990s and 2000s has yielded a well-respected and often-cited phase model of practitioner development that elucidates the professional development process for counselors, spanning their careers from pre-graduate training to retirement. Their model is based on research-derived themes that characterize major developmental processes for counselors/therapists (e.g., the anxiety that is experienced by many novice counselors that often dissipates over time; the continuous influence of personal life on professional life; and the powerful effects of interpersonal influences on professional development).

In addition to Skovholt and Ronnestad's model (1992a; Ronnestad and Skovholt, 2003), one other major work in counseling psychology forms the foundation for this study. Orlinsky, Ronnestad, and the Collaborative Research Network for the Society of Psychotherapy Research (2005) have published substantial mixed methods research on professional development of psychotherapists throughout their careers, and their research is ongoing. In a large scale, aggregate study, they explored ways in which professional development can occur positively or negatively, contributing and impeding factors to professional development, and how personal and professional lives affect therapists' professional development throughout their lives. For example, they have found that interpersonal relationships and workplace satisfaction contribute powerfully to therapists' professional development over time (Orlinsky et al., 2005).

Other models of counseling/psychotherapy practitioner development exist [see also the Integrated Developmental Model (Stoltenberg, McNeill, & Delworth, 1998); Hogan (1964); and Loganbill, Hardy, & Delworth (1982).] While sometimes criticized for being "overly simplistic" (Ducheny, Alletzhouser, Crandell, & Schneider, 1997; Russell, Crimmings, & Lent, 1984) developmental models nevertheless may be beneficial conceptual tools for practitioners and supervisors at various stages of their careers, and also for training programs. It is important that educators better understand the types of developmental challenges that professionals face in order to: arrive at realistic expectations of themselves, their colleagues, and their supervisees; better educate students about professional development throughout their lifespan; decrease attrition from the field, and provide early detection and intervention to minimize "negative avenues of professional development…[including] incompetence, impairment, burnout, and disillusionment" (Skovholt & Ronnestad, 1992a, p. 3). Finally, models of practitioner development provide a theoretical basis from which to design research and compare results across studies.

Professional development models in genetic counseling. A review of abstracts of every article published in the *Journal of Genetic Counseling* since its 1992 inception shows that while genetic counselors' professional development has received some critical attention recently (e.g., Abrams & Kessler, 2002; Matloff, 2006; Resta, 2002; McCarthy Veach, Bartels, & LeRoy, 2002 b, c), genetic counseling has no published theoretical or empirical model of professional development. Indeed, only two publications ask genetic counselors directly about their professional development processes, McCarthy Veach et al. (2002 b, c), and James, Worthington, and Colley (2003). Given that genetic counselors

are counselors, it seems logical that Ronnestad and Skovholt's (2003) model of therapist/counselor development would have some relevance to their professional development processes, and it might describe some of their own "themes."

However, McCarthy Veach, Bartels, & LeRoy (2002a) caution that "genetic counseling is not a hybrid" (p. 188) of other disciplines, and they call for genetic counseling to have its own "model, methods, and identified outcomes" (p. 188). They write, "Genetic counseling is a unique activity that warrants its own model and methods. It is time for the profession to *find itself* by articulating the genetic counseling model of genetic counseling" (p. 190). While there is overlap between the fields of genetic counseling and counseling psychology (e.g., need for highly developed interpersonal skills, basic counseling techniques, informed consent, transference/countertransference, trust, rapport, relationship building, and goal-setting), there are important differences as well that likely affect genetic counselors' professional development processes in meaningful ways. Some of these differences include the provision of complex genetic concepts in ways that are understandable to clients, genetic counselors' frequent deliverance of "bad news," the facilitation of genetic testing and difficult decision-making, and the often short-term nature of their relationships with clients. These (and other) similarities and differences between the two fields raise important questions about how and to what extent Ronnestad and Skovholt's (2003) and Orlinsky et al.'s (2005) models of practitioner development reflect and account for the specific professional development processes (or "themes") of genetic counselors, particularly throughout their professional lifespan.

While there are several important publications about professional development for genetic counselors (Abrams & Kessler, 2002; Matloff, 2006; McCarthy Veach et al., 2002 b, c, for example), literature on their overall professional development processes is scant. Indeed, it is too scant at this point to articulate a formal model of professional development. Basic descriptive questions have not yet been asked of genetic counselors in a systematic way, such as "What does professional development 'look like' for you?" Thus, it is important to work toward a model of professional development through empirical research, particularly qualitative investigations. McCarthy Veach, Bartels, and LeRoy (2007) posit in their *Reciprocal-Engagement Model* of Genetic Counseling Process that a "model" requires tenets ("assumptions, beliefs, principles, convictions"), goals ("objectives, aims, purposes"), strategies ("plans, approaches, methods"), and behaviors ("specific actions").

As part of working toward a comprehensive model of professional development, the proposed study was designed to yield valuable preliminary data about each of these four areas. A qualitative study can generate rich data and guidance for future qualitative and quantitative studies. To these ends, five major questions were addressed in the present study: (1) What constitutes professional development for genetic counselors? (2) How do these professional development processes occur for genetic counselors? (3) What facilitates and/or impedes professional development? (4) How does genetic counselor professional development vary as a function of experience level? And (5) How does genetic counselor professional development compare/contrast to psychotherapist development models described by Skovholt and Ronnestad (1992) / Ronnestad and Skovholt (2003) and Orlinsky et al. (2005)?

Purpose of the Study

Given the importance of better identifying, understanding, and addressing the ways in which genetic counselors develop throughout their career, initial exploratory research is needed to gain a basic understanding of their professional development processes and to identify further areas for systematic study. It was hoped that the present study would provide a foundation for development of a model of genetic counselor professional development. Further, the findings of this study might provide a bridge between the two main approaches to professional development in the extant genetic counseling literature: 1) personal essays that provide a rich but non-systematic picture of professional development, and 2) systematic studies of isolated components of professional development, such as compassion fatigue or peer group supervision. Currently no published literature systematically explores these issues for genetic counselors, though there is literature about therapists, nurses, teachers, and other professionals. Therefore, the purpose of this study was to explore how genetic counselors develop professionally, including phenomena that comprise influences, supports and impediments. Accordingly, 34 genetic counselors who varied in years of professional experience participated in a semi-structured telephone interview designed to explore their developmental experiences.

Definitions

Definition of genetic counseling. The first class of Master's degree students in genetic counseling graduated from Sarah Lawrence College in 1971, with the formation of the National Society of Genetic Counselors (NSGC) occurring in 1979 (Heimler, 1997). Genetic counselors possess unique skill sets related to advanced and cutting-edge

training in biology and genetics, coupled with highly tuned interpersonal helping skills. Since the profession's inception, genetic counselors practice in increasingly varied settings (e.g., university medical centers, community clinics, private practice), in a variety of specialties (e.g., prenatal, lysosomal/metabolic, psychiatric), and with a variety of patients (families, couples, individuals who are culturally diverse and whose age ranges cover the lifespan). Recently an NSGC task force developed a comprehensive definition of *genetic counseling*:

> Genetic counseling is the process of helping people understand and adapt to the medical, psychological and familial implications of genetic contributions to disease. This process integrates the following:
>
> • Interpretation of family and medical histories to assess the chance of disease occurrence or recurrence.
> • Education about inheritance, testing, management, prevention, resources and research.
> • Counseling to promote informed choices and adaptation to the risk or condition.
>
> Genetic counseling is a communication process in which trained professionals help individuals and families deal with issues associated with the risk of or occurrence of a genetic disorder (Resta, Biesecker, Bennett, Blum, Hahn, Strecker, et al. (2006) p. 77).

In North America genetic counseling currently requires a Master's degree for practice and board certification by the American Board of Genetic Counselors; certification typically occurs 1-2 years post-degree and is based on an individual's successful passing of a national exam, along with demonstrating evidence of an adequate amount and range of clinical work.

Definition of Professional Development

Authors in counseling-related fields offer various definitions of professional development, some of which focus on the cultivation of competence: (e.g., Lindley, 1997); the blend of competence and confidence (Orlinsky, Ronnestad, Ambuhl, Willutzki, Botermans, Cierpka et al., 1999); professional development as primarily continuing education (Mitchell, 2001; Postle, Edwards, Moon, Rumsey, & Thomas, 2002); and professional development as inclusive of intersections between personal and professional lives (Ducheny et al., 1997). As part of a recent task force charged with defining professional development for psychologists (along with creating recommendations for training and assessment toward this end), Elman, Illfelder-Kaye, and Robiner (2005) conducted an extensive literature review and subsequently created a definition of professional development in psychology meant to encompass the whole of people's professional psychology careers 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).

Thus, professional development is an ongoing process with a desired result of competence, confidence, and "professionalism" through both internal (intrapersonal) and external (interpersonal) means. Because this definition is the result of a thorough literature review, an APA-sanctioned working group's experiences, and it moves beyond simple descriptions and discrete experiences to accounts of organic processes that occur as a practitioner integrates her or his personal and professional experiences, roles, and

functions, Elman et al.'s (2005) definition serves as one central to the conceptualization of this study. No standard definition of professional development was found in the genetic counseling literature. The term "professional development" is used interchangeably with "practitioner development" throughout the following chapters.

CHAPTER TWO

Literature Review

Definition of Professional Development

Authors in counseling-related fields offer various definitions of professional development, some of which focus on the cultivation of competence: (e.g., Lindley, 1997); a blend of competence and confidence (Orlinsky, Ronnestad, Ambuhl, Willutzki, Botermans, Cierpka, et al., 1999); professional development as primarily continuing education (Mitchell, 2001; Postle, Edwards, Moon, Rumsey, & Thomas, 2002); and professional development as inclusive of intersections between personal and professional lives (Ducheny, Alletzhauser, Crandell, & Schneider, 1997). As part of a recent task force charged with defining professional development for psychologists (along with creating recommendations for training and assessment toward this end), Elman, Illfelder-Kaye, and Robiner (2005) conducted an extensive literature review and subsequently created a definition of professional development in psychology meant to encompass the whole of people's professional psychology careers from training through retirement:

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Theoretical Foundation, Part I: Skovholt and Ronnestad's Model of Practitioner Development (1992, 2003)

As has been mentioned, Ronnestad and Skovholt's (2003) model of practitioner development is one of the only models that explores the professional development processes, activities, thoughts, and behaviors of therapists across their professional lifespans. The authors began with the question of whether counselors develop with increased professional experience. Their cross-sectional and longitudinal qualitative research included interviews with a sample of 100 subjects in Minnesota ranging from novice counselors to retired counselors (all trained in psychology). From these results (1992a), they created an eight stage model (later changed to a six phase model) of practitioner development (2003): lay helper, beginning student, advanced student, novice professional, experienced professional, and senior professional (Ronnestad & Skovholt, 2003, p. 5). They argued that while there tends to be a somewhat predictable movement through the stages, the model is meant to be "conceptually and structurally flexible and porous" (Skovholt & Ronnestad, 1992a, p. 13). They suggested guidelines for when professionals tend to go through each phase, such as lay helper occurring before graduate training begins and senior professional occurring twenty to twenty-five years post

graduation. Each phase is characterized by a major task such as the need for experienced professionals (Phase 5) to create a therapeutic role that demonstrates competence and is "highly congruent with one's values" (Ronnestad & Skovholt, 2003, p. 20).

Additionally, and most relevant to this dissertation study, Ronnestad and Skovholt used inductive analysis to create twenty themes that characterize professional development for therapists, which they later modified to fourteen (Ronnestad & Skovholt, 2003). These themes "describe central processes" of professional development for counselors and, given their centrality to this dissertation study, are warranted for inclusion here (please see Figure 1). Although based on the same data as the phase model and related to the phases, the themes do not directly correspond to each phase. Rather, they incorporate overarching ideas that connect the stages or are characteristic across stages. Overall, these themes are characterized by their focus on 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. They encompass a wide range of processes, thoughts, feelings, and experiences that appear to have some face validity and relevance to the experiences and developmental processes of genetic counselors. The significance to this dissertation study of Skovholt and Ronnestad's work on professional development throughout the professional lifespan is clear by now, although their related work has been published in multiple articles not thoroughly discussed here (cf. Skovholt & Ronnestad, 1992b; Ronnestad & Skovholt, 2001).

Theoretical Foundation, Part II: Orlinsky, Ronnestad, and the Collaborative Research Network of the Society for Psychotherapy Research (2005): A Contributor To Comprehensive Professional Development Research

Another research team (Orlinsky and the International Society of Psychotherapy Research's Collaborative Research Network) has dedicated its resources to studying professional development throughout the lifespan, but via very different methods than those used by Skovholt and Ronnestad. Combined, the two research teams account for a description of professional development characterized by breadth and depth, and by qualitative and quantitative findings. Orlinsky et al. (2005) primarily use the "Development of Psychotherapists Common Core Questionnaire" (DPCCQ; 1991), a lengthy paper-based survey translated into multiple languages, to gather quantitative data from psychotherapists worldwide (with an unusually large cumulative *N* of approximately 5,000 in 2005). The DPCCQ asks respondents to rate specific components of their current and past development. Results of their large-scale, aggregate exploratory work on how psychotherapists develop (positively and negatively) throughout their professional lifespan has been published in multiple journals for many years (Orlinsky et al., 1999; Orlinsky, Botermans, Ronnestad, and the SPR Collaborative Research Network, 2001). Their book-length project, *How Psychotherapists Develop: A Study of Therapeutic Work and Professional Growth* (Orlinsky et al., 2005), deserves further analytical attention here.

Their research questions include: "How does development influence their [psychotherapists'] work and their personal and professional lives?" "To what extent are there patterns of professional development and to what extent do they differ by profession, nationality, theoretical orientation, etc.?" "How and to what extent do psychotherapists develop over the course of their careers?" and "What professional and

personal circumstances positively or negatively impact development?" (p.7). Their mixed methods design uses multiple sampling procedures, a strikingly large *N*, international focus, and an inclusive definition of "psychotherapist" that render their research methodologically strong and generalizable.

One of the contributions of Orlinsky et al.'s (2005) work is its attention to both positive and negative aspects of professional development. They ask practitioners about currently experienced growth (e.g., "becoming more skillful," "overcoming limitations as a therapist," and "experience sense of enthusiasm") and currently experienced depletion (such as "performance becoming routine," "losing capacity to respond empathically," "becoming disillusioned about therapy," p. 110). Orlinsky et al. (2005) reported many findings including results from factor analyses, but of particular importance here are those pertaining to practitioners' "perceived sources of influence." The top thirteen influences on their development are (in descending order of frequency): (1) "experience in therapy with patients; (2) personal therapy, analysis, or counseling; (3) getting supervision or consultation; (4) taking courses or seminars; (5) experiences in personal life; (6) informal case discussion with colleagues; (7) reading relevant books or journals; (8) working with cotherapists; (9) teaching courses or seminars; (10) institutional conditions of one's practice; (11) observing other therapists; (12) doing research; and (13) 'other'" (p. 127). Similar to Ronnestad and Skovholt's findings, their results emphasize interpersonal influences (in both personal and professional life) over more academic or "purely intellectual" influences, all of which are rated toward the bottom of the above list. These results largely held across cohorts, with clients' experiences always being on top and with very minor variations in their ordering throughout the professional

lifespan. Also, regarding ratings of personal life influencing professional development, 60% indicated that personal life experiences were a “strong positive” influence, while 5% indicated that they were a “negative” influence (p. 128).

Four findings appear to be particularly relevant to the present study of genetic counselors: (1) Workplace satisfaction contributes even more powerfully to practitioners’ development than the researchers had anticipated, with high levels of “support” and “autonomy” correlated with higher levels of overall career development at every career level (p. 133). (2) The vast majority of participants (86%) were “highly motivated to pursue further professional development” (p. 104). This surprisingly high number could be explained by selection (those who spent the 1-2 hours participating in the survey on professional development might have been substantially/characteristically more motivated and interested in professional development than the population of psychotherapists at large). Nevertheless, the finding that this many practitioners are so motivated should be pursued further. (3) Practitioners currently in therapy showed the “highest rate of progress” in their development (p. 121). This finding raises questions for genetic counselors (e.g., whether being in therapy or having been a client in genetic counseling may impact genetic counselors’ professional development). (4) And, intriguingly, “Experiences in therapy with patients” was the “strongest and most widely endorsed positive influence [on development]” (p. 127). The sample included people working with a range of clients from a variety of theoretical perspectives and in diverse settings. Those psychotherapists reporting the least job satisfaction worked solely in inpatient therapy. These findings suggest the possibility that experiences with clients similarly are a key factor in genetic counselor professional development and that genetic

counselors who feel overworked or focused on a single "type" of client[i] may have less job satisfaction.

While Orlinsky et al.'s (2005) data are limited by a single self-report measure and their report lacks a thorough analysis of their open-ended survey questions (such as: "What do you feel is your greatest strength as a therapist?" and "What else do you consider important about your development as a therapist that has not been covered in this questionnaire?"), their findings provide a foundation for the study of professional development in other counseling fields. Indeed, the authors suggest future research in "parallel and contrasting professions" in order to find "what is distinctive as well as what is typical of psychotherapists" (p. 204) and to better understand "the social and psychological characteristics distinctive" of each profession. However, in a personal communication, Orlinsky (2007, July) suggested that using the DPCCQ to study the professional development of genetic counselors might involve "some significant modifications" due to the differences in "scope and focus" of their work[ii].

Given the theoretical grounding of professional development, including Ronnestad and Skovholt's (2003) model of such, the following two sections will review, critique, and synthesize extant literature on professional development, primarily in genetic counseling literature, but with attention paid to counseling-related fields. Exploration of the extent to which Skovholt and Ronnestad's themes in particular "fit" with genetic counselors' experiences as presented in the literature will be interspersed throughout the critical review as a theory-driven way of answering the research question: "What constitutes professional development for genetic counselors?" and will thereby provide a foundation to investigate this dissertation's additional research questions: "How

do these professional development processes occur for genetic counselors?"; "What facilitates and/or impedes professional development?"; "How does genetic counselor professional development vary as a function of experience level?"; and "How does genetic counselor professional development compare/contrast to psychotherapist development models described by Skovholt and Ronnestad (1992) / Ronnestad and Skovholt (2003) and Orlinsky et al. (2005)? Better understanding of how extant counseling psychology models of practitioner development fit and do not fit for genetic counseling will help determine appropriate research questions and practice implications as well.

Professional Development in the Genetic Counseling Literature

As stated above, no model of genetic counselor professional development yet exists in the published literature. The lack of a model is not surprising when coupled with the fact that only two articles in the *Journal of Genetic Counseling* directly ask genetic counselors how they develop professionally: McCarthy Veach, Bartels, and LeRoy's (2002 b,c) special series that solicited genetic counselors for "defining moments" in their professional development and James, Worthington, and Colley's (2003) survey that asked genetic counselors in Australasia several questions about professional development as part of a larger survey about workplace needs. Further, no empirical research has been performed on the professional development of genetic counselors over the professional lifespan. The extant published work tends to be characterized by personal essays—an important, powerful resource and modality, but a modality that leaves room for creating a more comprehensive and systematic picture of professional development in the genetic counseling field. Part of the paucity of empirical

literature in this area may be due to the difficulty of quantifying and measuring such complex and personal constructs. The articles that do exist tend to examine components of professional development such as countertransference (Kessler, 1992; Kessler, 1999; Middleton, Robson, Burnell, & Ahmed, 2007), skill development (ABGC, 2007; Bennett, Petterson, Biendorf, & Anderson 2003), student supervision (Borders, Eubanks, & Callanan, 2006; Hendrickson, McCarthy Veach, & LeRoy, 2002), and peer group supervision (Middleton, Wiles, Kershaw, Everest, Downing, Burton, et al., 2007; Zahm, McCarthy Veach, & LeRoy, 2008), rather than the overall processes of professional development. The following section contains a review and critique of the literature on professional development in genetic counseling through review and critique. Since there is so little original research done in this area, the first subsection will focus on articles that are based on personal reflections; the second subsection will focus on the smaller amount of data-based articles.

Subsection I: Professional Development in Genetic Counseling - Reflective Self-Reports

The articles reviewed in this sub-section (Abrams & Kessler, 2002; Matloff, 2006; McCarthy Veach et al., 2002 b,c) are all reflective, written in a highly personal format, build upon related (if not similar) experiences, make some common practice recommendations about developing successfully as a genetic counselor, and begin to fill a major gap in the literature. Each article contributes to the creation of an answer to the question of what it "looks like" for genetic counselors to develop professionally and each focuses on how genetic counselors' personal and professional experiences mutually influence each other, often in unexpected, powerful ways not covered by books or formal education. Together they provide the closest approximation of a lifespan developmental

model of professional development for genetic counselors that the literature has to offer. While all are limited in their generalizability to the population of genetic counselors, they nevertheless raise provocative points worthy of further consideration and research.

In 2002, Abrams and Kessler wrote the powerful, poignant, and unique "The Inner World of the Genetic Counselor" which describes the unavoidable intersections between personal and professional experience and growth. Their series of "truth-in-fiction" vignettes about the intersections between the personal and professional lives of genetic counselors imagines or "approximates a developmental path many genetic counselors may follow in their careers" (p. 6). The authors made no claim to be comprehensive in their vignettes or to include individual variations; they clearly articulated that professionals will have varied experiences. Each vignette reveals reflective processes of genetic counselors and demonstrated the symbiotic relationship of personal and professional experiences. Their inclusion of new genetic counselors (such as a young genetic counselor calling to give a couple "bad news" about their amniocentesis results as she guiltily thinks of her own healthy children playing nearby) and more seasoned ones (the mentor who had not seen his genetic counseling mentee in eighteen years and felt "so isolated and distant from it all, a bystander who had little left to say and even less to contribute" (p. 15)). models a range of experiences—a cross section of professionals from the life span. We see professionals question and reflect upon their own personal roles as spouses/partners, parents, and so forth. We also see the development and assertion of a confident professional identity. Their article shows that professional development for genetic counselors is characterized by the importance of self-reflection. Each vignette illustrates those reflective processes and shows moments of growth,

whether mundane and seemingly minor/uneventful, such as the genetic counselor who has a frustrating conversation with a cocky thirty year old patient who seems not to realize the magnitude of potential genetic testing results, or identifiably major (the individual who reflects on his years as a genetic counselor and a mentor, and feels "sad," "isolated," and "distant," but then suddenly experiences "an overwhelming sense of gratitude and warmth and wished it were possible to reach out to all of them—students, colleagues, friends—in some meaningful way and to say thank-you for giving meaning to his life" (p. 15-16).

Abrams and Kessler's (2002) conceptualization of a developmental path many genetic counselors may progress through includes (in their order): "projective identification …complexities of interprofessional relations and of trying to bridge our differences…the professional maturation of genetic counselors [including] differentiat[ion] from colleagues…the contribution of the genetic counselor as a medical professional…the need to accommodate the various roles we have as partners, parents, members of the community, and role models in addition to being professionals…[and] issues of self-reflection and how our work changes and deepens our perspective of our professional and personal lives and vice versa" (p. 6-7). Much like Skovholt and Ronnestad's phases and themes, Abrams and Kessler's "developmental path" emphasizes self-reflection, intersections between personal and professional, and interpersonal effectiveness. More specifically, Abrams and Kessler's article exhibits multiple themes consistent with Ronnestad and Skovholt's (2003) model. Particularly, Ronnestad and Skovholt's (2003): "professional development involves an increasing higher order integration of the professional self and the personal self," "personal life influences

professional functioning and development throughout the professional life span" and "extensive experience with suffering contributes to heightened recognition, acceptance, and appreciation of human variability" (Ronnestad & Skovholt, 2003, p. 27-38).

Some themes present in Abrams and Kessler's article are *not* captured well by the Ronnestad and Skovholt (2003) model and these themes include: being part of a young profession undergoing a parallel process of fighting to establish its own professional identity (illustrated by the genetic counselor who wakes up in the night concerned about her professional talk in front of physicians and "hospital staff" (p. 11)); being a man in a field inhabited and led primarily by women (p. 8); the ethics involved in genetic testing and decision-making, often about life-and-death or life-altering decisions (as seen through a genetic counselor who adamantly believes that her eight year old client should not be tested for Von Hippel-Lindau); and the more common expectation and reality of delivering bad news (via phone, in person, to children, adults, parents, families, etc.).

Resta (2002) responds to Abrams and Kessler's (2002) article with agreement that their article illustrates commonalities among the experiences of genetic counselors. He posits that their vignettes and open discussion of the internal processes of being, becoming, and living as a genetic counselor foster professional growth by "challeng[ing] us" (p. 19), normalizing some feelings, and by inviting discussion with genetic counselor colleagues. By exploring the specifics and raising provocative questions about the details of each vignette, Resta comments on what comprises—and what he believes can/should comprise—professional development for genetic counselors. He delineates a loosely structured series of professional development milestones: First, "self-doubt and scrutiny of student training is a necessary starting point for professional development" (p. 21).

Second, “after the stage of mastering technical information, many counselors become interested in enhancing their counseling skills” (p. 21). Then, “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). This tripartite view of development—self-doubt, skill cultivation, confidence and mentoring—is broad yet simple. He posits that this succession of professional growth often manifests itself through discomfort (his own admitted feelings of inadequacy during counseling sessions). That is, many of the the genetic counselors in the vignettes experience difficult situations, but few recognize these challenges as “opportunities for development” (p. 23).

Thus, Abrams and Kessler (2002) and Resta (2002) encourage telling personal and professional stories, and sharing experiences, as vehicles for connecting with colleagues, feeling normalized, and developing professionally. Abrams and Kessler (2002) express the hope that their article “will touch the readers’ own inner world and will evoke associations and feelings with comparable situations they have experienced” (p. 6). Resta also strongly advocates professional supervision as a healthy facilitator of the professional development process to improve as genetic counselors and as people. These recommendations focus heavily on reflective practice and interpersonal relationships with colleagues, not unlike Skovholt and Ronnestad’s model.

Also in 2002 (b,c), McCarthy Veach et al. authored a collection of brief essays written by genetic counselors describing their own “defining moments” in their own growth as genetic counselors. The “Call for Papers” invited genetic counselors to consider describe experiences that “catalyzed their professional development” (p. 277). McCarthy Veach et al. define “defining moments” as “personal experiences that have had

a significant impact on their development as genetic counselors. Defining moments include any event or experience that leads to a further realization of one's self as a genetic counselor" (p. 278). The experiences themselves could be either positive or negative, but each author was instructed to articulate how s/he used that "significant life event" (p. 278) to create a positive outcome. The authors built upon a similar series by Skovholt and McCarthy (1988) in the psychology/counseling literature with the notion that "personal and professional experiences are notably interconnected" (p. 277) though not yet thoroughly discussed in genetic counseling. This series of fifteen articles by seventeen authors (ranging from students to highly experienced practitioners) focuses on how specific pivotal experiences affected their "sense of self" as professionals (p. 278). Their experiences include being a genetic counseling patient (Keilman, 2002), becoming pregnant and a parent or grandparent (Cohen, 2002; Hatten, 2002; Keilman, 2002; Valverde, 2002; Young, 2002), encountering the death of a friend or loved one (Hagemoser-Platt & Reiser, 2002; Woo, 2002), participating in new professional activities (Bennett, 2002; Lieber, 2002; Schmerler, 2002), asserting one's own professional status and being proactive about the profession (Edwards, 2002; Morris, 2002), and becoming more confident in oneself as a practicing genetic counselor (Bennett, 2002; Drake, 2002; Gold, 2002).

Rather than summarize each contribution, the articles will be discussed collectively in the context of Ronnestad and Skovholt's (2003) themes (please see Figure 2). The following is not a comprehensive categorization of the vignettes, as many of the articles can be seen as reflective of multiple themes. Rather, they do reflect this author's subjective sampling of the most salient themes that emerged across the articles.

In addition to the themes outlined in Figure 2, this author would argue that two of Ronnestad and Skovholt's themes characterize all fifteen articles in McCarthy Veach et al.'s (2002 b, c) "defining moments" series: "Professional development involves an increasing higher order integration of the professional self and the personal self" and "Personal life influences professional functioning and development throughout the professional life span." Several examples of authors who refer directly to these personal and professional intersections include: "But I realize that being in this confluence of personal and professional currents has changed me, molded me like a piece of beach glass as a person, a parent, and a genetic counselor" (Young, 2002, p. 301) and "My personal and professional lives became intertwined, as would be expected…" (Woo, 2002, p. 296). That these themes emerge in all fifteen articles could be attributed to how the articles were solicited and the instructions provided to authors and not necessarily to the widespread experiences of most genetic counselors. While this author suspects that these themes may be salient for many genetic counselors' professional development processes, more research is needed to determine the extent to which this is a valid hypothesis.

While there are many strengths of this series, including the authors' "lessons" (McCarthy Veach et al., 2002c) for genetic counselors (such as the importance of connecting with "supportive others," the benefit of open discussion of professional development, and the importance of allocating research resources to "studying the relationship between personal experiences and professional development" (p. 335-336), there are a few limitations. Interestingly, what might have been most helpful in this series of articles would be a more fleshed out and operationalized definition of "professional

development." As is, they write that "personal and professional experiences are notably interconnected" (p. 277) and that professional development contributes to a professional's "sense of self" (p. 278). They also posit that the articles "demonstrate how personal experience can lead to significant differences in one's perspective and approaches to clients" (p. 278). Also, while McCarthy Veach et al. (2002 b, c) did solicit both "positive and negative" experiences, they focused on how genetic counselors made positive meaning and cultivated positive growth out of their experience (if negative). Each author did what Resta (2002) advocated: they saw difficult experiences as opportunities for professional growth. While not a point of critique per se, it is important to conceptualizing genetic counselor "professional development" that the authors did not explore directly "negative" development. While impractical, a look at how genetic counselors who experienced negative development (such as through stagnation or premature closure or leaving the profession) would be an interesting complement to their work that showcases genetic counselor growth.

Following Abrams and Kessler's, Resta's, and McCarthy Veach et al.'s groundbreaking articles in 2002, Matloff (2006) demonstrates another profound way in which personal and professional experience become intertwined in meaningful ways. In "Becoming A Daughter," Matloff describes how her experiences with her mother's cancer diagnosis affected her work as a genetic counselor; specifically, how "a personal experience can reframe [one's] counseling" (p. 142). After being on "the other side," she reflects on and rethinks her self-perception as an empathic genetic counselor and realizes a) how little she knew, and b) how much more deeply her difficult experience caused her to empathize with her clients. Her personal experiences caused her to become more

empathic, understanding, and self-aware in her professional functioning. Consistent with Skovholt and Ronnestad's themes, Matloff found herself continuously reflecting and remaining open to growth, however painful it may have been at the time. She writes, "reflection on this event over the past few years has reminded me that we too are only human" (p. 142) and "I have learned that I am still learning every day" (p. 143). Matloff recommends that other genetic counselors undergoing similar experiences: "take care of yourself, first" such as through extra time off, temporary avoidance of particular types of cases, and/or discussions about the personal and professional with colleagues, a therapist, or a supervisor (p. 143).

McCarthy Veach (2006) provides a commentary that further elucidates Matloff 's (2006) professional development, positioning Matloff's essay in the gradually accumulating genetic counselor professional development literature that connects the complicated, sometimes painful symbiotic relationships between personal and professional experiences. She points out that Matloff's "professional transformation" can be viewed as a type of "bifocality" where her roles as daughter and genetic counselor mutually influence each other (p. 146). Although Matloff describes her experiences as neither "positive" nor "negative," McCarthy Veach points out some of the "positive gains" Matloff makes in her practice as a genetic counselor as catalyzed by her difficult personal experiences. These gains include increased awareness of her own and others' unique emotional processes and "coping strategies"; increased willingness to readily consult with colleagues; stronger empathy; and increased self-awareness about countertransference and self-disclosure (p. 146).

Most recently, Anonymous (2008) shares how an emotionally intense personal experience influenced her professional development. She writes powerfully about the difficult decision that she and her husband made to terminate a pregnancy during her second trimester after discovering a brain abnormality. She shares her discovery, decision process, sequence of events, emotional recovery, and how she integrated these experiences into her own genetic counseling practice. She writes that in the period soon after her termination she questioned how she was counseling patients, "Maybe I was projecting my grief onto my patients, or maybe I had simply become more emotionally attuned to their situations, given our own. It was hard to tell" (p. 416). Over time, she realizes that despite having already been highly empathic, her experiences have taught her to "better understand and anticipate and understand the range of emotions and needs of patients dealing with similar situations" (p. 417). She ultimately chose to pursue a research position, as her previous clinical position had been at the hospital where she had her experiences as a patient and counseling patients "no longer felt healthy" (p. 417).

Her reflective account provides an example of ways in which her personal life and professional life intersected in numerous ways. These experiences combined to create an outcome whereby she sought professional opportunities that facilitated her grieving process and renewed her energy for her career. Further, as LeRoy and McCarthy Veach (2008) point out, Anonymous's (2008) article illustrates the long-range consequences of difficult decisions. Her story has implications for genetic counseling patients (e.g., informing the genetic counselors who counsel them), and for genetic counselors in their own development. For example, the consequences of a major loss are likely to exert an influence for the remainder of one's career (affecting one's personal relationships,

professional relationships with colleagues and patients, and one's decisions about jobs/professional positions).

Biesecker (2008) commends Anonymous (2008) for sharing her personal experiences and further describes how her story potentially benefits genetic counselors (e.g., better understanding of the confluence of personal and professional development, greater awareness about complicated grief processes, and ideas of how to be more compassionate colleagues/human beings). Biesecker (2008) draws upon additional research to make specific recommendations about ways to help patients, such as recommending "facilitated shared experience groups" (p. 421) for those grieving similar losses, understanding how to be more empathic with others, being more acutely attuned to symptoms of post-traumatic stress and complicated grief. Both Biesecker (2008) and LeRoy and McCarthy Veach (2008) argue for genetic counselors to have more extended contact/follow-up with patients who have decided to terminate. Biesecker (2008) also highlights the intersections between personal and professional growth, as depicted in they story that Anonymous (2008) has shared: "Overall the author gives us pause for thoughtful assessment of our work as genetic counselors. How do we best help our [patients] make traumatizing decisions?...The author also gives us pause for thoughtful assessment of our own lives. How do we accomplish due diligence in appreciating our own good fortune if we have escaped the risk each of us faces to have a child with a birth abnormality?..." (p. 422).

Summary and Synthesis of Non-Data-Based, Self-Reflective Reports of Professional Development in Genetic Counseling

Their aforementioned articles in this section by Anonymous (2008), Matloff (2006), McCarthy Veach (2006), Abrams and Kessler (2002) and Resta (2002) about the "inner world" of genetic counselors, and the McCarthy Veach et al. (2002 b, c) series on "defining moments" for genetic counselors overlap in several important ways. Each of these reflective self-report articles make similar recommendations about ways that genetic counselors can develop optimally. Abrams and Kessler (2002), Keilman (2002), McCarthy Veach et al. (2002 b,c), Resta (2002), and Young (2002) all advocate peer supervision as a means for garnering support, understanding, and personal and professional growth (McCarthy Veach et al., 2002c, p. 335)[iii].

Relatedly, each author also advocates the telling of stories through speaking or writing—giving voice to experiences that might otherwise go untold, remaining unshared, in order to promote the development of genetic counselors and the collective profession. For example, Bennett (2002) encourages genetic counselors to share their stories and their work: "we are waiting to hear YOUR voice" and "Each of us should be writing, presenting abstracts, and seeking funding for research in the countless areas of genetic counseling that we work with every day" (p. 320). Also, the authors recommend using their articles to stimulate open discussion with colleagues about personal and professional experiences—or, as a means to professional development. While these articles reflect several of Ronnestad and Skovholt's (2003) themes, they also suggest several themes *not* thoroughly accounted for by the Ronnestad and Skovholt (2003) model of practitioner development. First, they seem to suggest a parallel process of developmental experiences for the genetic counseling field as a whole. McCarthy Veach et al. (2002b) indicate that their authors' "efforts have strengthened and expanded the

genetic counseling profession in important ways" (p. 279). Several authors (such as Bennett, 2002; Morris, 2002; Schmerler, 2002) mention their need to justify or defend their skills, knowledge, and professional activities to physicians, medical staff, and/or administrators. These articles demonstrate a collective sense of professional confidence and efficacy, much as do many of the individual authors[iv].

Second, this establishment of the voice of genetic counseling, concurrent with voices within genetic counseling includes gender issues. One of Abrams and Kessler's vignettes focuses on being a man in a field run predominantly by women. In one defining moments essay, Edwards refers to standing up to her department chair to defend her faculty position and describes her "reluctance to talk about [her] accomplishments, a personal trait that also affects many professional women I know" (p. 327). While Skovholt and Ronnestad's themes emerged from research that included equal numbers of men and women, the predominance of women in genetic counseling warrants further attention in evaluating the validity of their model for genetic counselors. Third, the ethical dilemmas that exist for genetic counselors in their typical practice seem to be more severe (life and death decision making, for example), perhaps due to the medical nature of genetic information and the specific genetic tests and technologies that are relevant for clients (as seen in Gold (2002) and Abrams and Kessler (2002)).

In addition to each of the aforementioned articles' provision of consistent and complementary recommendations for professional development, they share some strengths and limitations. Many of their strengths have been discussed; each provides a unique and highly personal contribution to a topic (professional development) that occurs for every genetic counselor, yet is rarely discussed in the literature. The personal

reflective nature of these articles render them viable, important, and thorough, with depth rather than breadth. Limitations of personal essays—the epitome of self-report data—include their lack of generalizability and vulnerability to distortion (such as knowingly or unknowingly shaping one's responses toward social desirability, self-flattery/self-aggrandizement, or toward supporting the researcher's agenda (Heppner et al., 1999)), though there is no strong evidence from the articles to suggest these types of distortions. While these articles provide some of the best information available about genetic counselor professional development, in order for a more thorough and accurate picture of their professional development to emerge, these articles need to be corroborated by both qualitative and quantitative research.

Subsection II: Professional Development in Genetic Counseling – Data-Based Articles

Given that no data-based articles exist in the genetic counseling literature that ask directly about professional development, the data-based articles included in this section are further subdivided into two sections representing two components that must be considered in order to develop a comprehensive model of professional development: 1) What happens when development is not necessarily "positive," optimal, or does not result in a lifelong career in genetic counseling? (Benoit, McCarthy Veach, & LeRoy, 2007; Parrott & Del Vecchio, 2006; Runyon, Zahm, McCarthy Veach, MacFarlane, & LeRoy,2009); and 2) Who constitutes the population of genetic counselors that a professional development model would represent? (James et al., 2003; Lega, McCarthy Veach, Ward, & LeRoy, 2005; Oh & Lewis 2005).

Professional Development is not all About "Gains": "Negative Avenues" of Development

One of the professional experiences described by the authors in the preceding section (Abrams & Kessler, 2002; Matloff, 2006; McCarthy Veach et al., 2002 b,c) and also referred to by Ronnestad and Skovholt (2003) is exposure to client suffering. In genetic counseling this exposure to client suffering often includes genetic counselors' own perceptions and feelings of agency and involvement, such as through the delivery of positive test results (i.e., bad news). The above authors found ways to positively integrate their experiences into their practice and their continued development; unfortunately, not everyone does. In 2006, the National Society of Genetic Counselors (NSGC) published its biannual Professional Status Survey (Parrott & Del Vecchio, 2006). With a 68.1% response rate to its online survey, genetic counselors from the United States and Canada provided data about their salary and demographics as well as their satisfaction with their current position and their position as a genetic counselor in general. Interestingly, when assessing their satisfaction of genetic counseling as a profession, 87.1% of respondents reported being satisfied with the "*personal* growth" offered by the profession, while only 65.3% of respondents were satisfied with the field's offering of "*professional* growth."[v]Also in this survey, 15% of respondents indicated that (at the time of the survey) they were "considering leaving the genetic counseling profession" (p. 25). Forty-six percent of those considering leaving the field indicated that burn-out was one of the major reasons, while 36% indicated that they had experienced a "change of professional interests" (p. 25). These results add an even more complex dimension to the above self-reflective articles by illustrating how professional development is not always in a positive

direction toward optimal growth. It is difficult to discern whether respondents to the 2006 Professional Status survey differed in any significant ways from non-respondents, but the relatively high response rate allows for some generalizations to be made to the larger population of genetic counselors. The finding that 15% of respondents were considering leaving is problematic and warrants further exploration.

Benoit et al. (2007) were interested in understanding factors that might contribute to stagnation or premature closure, specifically how exposure to client suffering can impact genetic counselors. They conducted a qualitative study to investigate whether and to what extent the phenomenon of compassion fatigue, as defined and articulated by Figley (2002), applies to practicing genetic counselors. Benoit et al. also explored genetic counselors' awareness of compassion fatigue during their graduate education and they solicited their training suggestions. The researchers gathered their data during two focus groups of six genetic counselors each. The twelve genetic counselors represented six training programs and were currently practicing in one Midwestern state. Their experience levels ranged from 2.5 years to 26 years, they represented a variety of practice specialties, and the number of patients seen per week ranged from 0-24. After completing a brief demographic questionnaire, participants read a definition of compassion fatigue provided by the authors and then responded to a series of interview questions. The questions included asking for examples of compassion fatigue and participants' understanding of compassion fatigue as students. Using a modified version of Consensual Qualitative Research (CQR, Hill, Thompson, & Williams, 1997) to extract themes, domains, and categories from the data, the researchers found that the participants had all reportedly experienced compassion fatigue, their experiences were generally consistent

with Figley's (2002) model of compassion fatigue, and they articulated methods for coping with compassion fatigue that were both productive (e.g., boundary setting and reserving time to decompress) and problematic (e.g., selective forgetting, dreaming about patients, and distancing emotionally). Benoit et al. also found that compassion fatigue could bleed into personal/family life, giving bad news was often a contributor to compassion fatigue, and that there may be personality characteristics that predispose genetic counselors to the risks of compassion fatigue.

One of the most powerful contributions of their work is raising awareness of compassion fatigue among genetic counselors. Benoit et al. (2007) recommended that compassion fatigue be addressed openly, including in graduate programs, so as to minimize its detrimental effects and to help genetic counselors work toward "achieving a delicate balance between empathic connection and detachment" (p. 310). They also encouraged the use of peer supervision groups; multiple clinical opportunities for genetic counseling students to provide positive test results (i.e. bad news); opportunities for reflection upon their cases, their job, and their profession (e..g, what it is satisfying and challenging); and taking periodic breaks, however short, from clinical work.

These are important data-driven recommendations that corroborate some of the recommendations made by authors of the previously reviewed personal reflection articles (in particular, reflection, interpersonal interactions, and peer supervision). One limitation includes a lack of detail regarding participant recruitment and selection procedures, thus raising questions about how the results might have been affected by these selection procedures, and therefore how they might apply to other genetic counselors' experiences[vi].

Building upon Benoit et al.'s (2007) work on compassion fatigue and further grounding the importance of systematic investigation of professional development processes that occur for genetic counselors, Udipi, McCarthy Veach, Kao, and LeRoy (2008) used a mixed methods study to investigate predictors of and buffers for genetic counselor compassion fatigue, along with "critical incidents" describing one's experiences of compassion fatigue for a sample of 222 genetic counselors. Multiple regression analysis yielded seven significant predictors that accounted for 53.7% of the variance in compassion fatigue scores [as assessed by two measures: "The Professional Quality of Life" (Stamm, 2005) and "The Brief COPE" (Carver, 1997)]. Higher compassion fatigue scores were associated with the following profile: "experiences burnout, has experienced a greater variety of distressing clinical events, has a larger caseload, is not a parent, and uses three types of strategies to cope with stress—religion, blames one's self and gives up, and seeks support" (p. 466). The researchers also found that the respondents' critical incidents were congruent with Figley's (2003) model of compassion fatigue. Strengths of their study include the mixed methods design, its use of a validated compassion fatigue instrument, and a large national sample of genetic counselors who varied in their genetic counseling experience and practice settings. The study is limited in its generalizability due to a small estimated response rate (~19%), but it provides much-needed quantitative data about the very real challenges involved in genetic counselor practice.

Of particular relevance to the present study is Udipi et al.'s (2008) finding that burnout, (characterized as feeling "overworked") is a predictor of compassion fatigue [characterized as feeling "overwhelmed" by patients' realities and tragedies (p. 461)].

Furthermore, they found that 26% of genetic counselors surveyed were “at high risk” while 57% were “at moderate risk” for manifesting compassion fatigue (p. 468). These numbers are concerning and underscore the need to better understand the phenomena. Given how important empathic connection is with patients and how interpersonally demanding the field of genetic counseling is, Udipi et al.’s (2008) findings should be further considered and explored as part of professional development processes throughout genetic counselors’ lifespans.

One additional study provides some evidence of “negative” genetic counselor development or learning despite primarily “positive” results. Runyon et al. (2009,) conducted a two-part data analysis regarding genetic counselor professional development. Specifically, they used an anonymous online survey asking genetic counselors two open-ended questions: “In your experience as a genetic counselor what would be the most important thing you have learned about yourself?” and, “Is there a piece of advice you would offer to genetic counseling students or those just starting their career?” With an estimated 22.3% response rate and a usable *N* of 181, the authors used a Q-sort and inductive analysis to extract 12 themes. They found that the results of what genetic counselors had learned about themselves were “overwhelmingly positive” with a “small but salient number describing negative experiences” (p. 3). A few examples include: “I also learned that I regretted not pursuing medical school or a more advanced degree”; and “I now have a huge fear of taking the leap to have kids. I did not expect this to be true as a student, but after 7 years of exposure, getting pregnant feels like playing Russian Roulette!”

The researchers also used Skovholt and Ronnestad's (1992a) model as a framework through which to compare and interpret their data, building upon the twenty themes of practitioner development. Examples of intersections between personal and professional experiences include, "I have learned that your personal experiences have a significant impact on your professional self and that you have to learn to manage it." Because this work is yet unpublished and still under revision, a thorough critique is not included here, although one potential limitation is the relatively low response rate. Nevertheless, this study will undoubtedly contribute to the genetic counselor professional development literature in an important and timely way.

Summary. Considered together, the results of the NSGC Professional Status Survey (2006), the Benoit et al. (2007) qualitative study of compassion fatigue, the Udipi et al. (2008) mixed methods study of prevalence and predictors of compassion fatigue, and the Runyon et al. (2009) study of genetic counselor professional development illustrate some of the ways in which genetic counselors are challenged, frustrated, or fatigued by their position as a genetic counselor. Furthermore some data are emerging about how they learn to manage these difficulties. One limitation of these studies is their reliance upon self-report data, but they do provide some much needed information about the "negative avenues" of genetic counselor professional development and form a solid foundation for future research to be performed in these areas.

Who Comprises the Genetic Counselor Population? Prerequisite for a Developmental Model

In order to create a model of genetic counselor professional development and to generalize much of the professional development research, it is important to know who

genetic counselors are (and are not), including what motivates them to become genetic counselors and to commit their professional lives to doing this work. Also, research on newly graduated genetic counselors is particularly important because "approximately half" of genetic counselors have "less than 5 years of experience in the profession" (Ormond, 2005, p. 87). Identification of genetic counselor characteristics is also important because Ronnestad and Skovholt's (2003) practitioner development model was based on a mixed sample of men and women, all practicing in the United States, and therefore it may not be valid in all respects to the experiences of genetic counselors. Likewise, while Orlinsky et al.'s (2005) model reflects a large, international sample, it also includes a more mixed sample of men and women than currently exists in the genetic counseling profession and includes a more "experienced" sample than currently exists in genetic counseling, including professionals who have been practicing up to 53 years.

Two data-based studies published in the *Journal of Genetic Counseling*—Lega et al. (2005), and Oh and Lewis (2005)—address this area of inquiry through survey and interview data. Between them, they ask who chooses genetic counseling as a career, what influenced/ discouraged their professional career decision, whether racial/ethnic minorities and males differ from non-minorities and females in their knowledge of and attitudes toward genetic counseling as a profession, and what unique experiences minorities and males have once they enter the profession. One additional, related study (James et al., 2003) explores the differences between genetic counselors in three different types of genetic counseling settings in Australasia (Australia and New Zealand).

In Lega et al.'s (2005) survey-based study, the authors designed and administered a paper-based fifty-two item survey to genetic counseling students in the United States

and Canada. Their research goal was to create a comprehensive picture of the demographics, career motivations, career support, and career "certainty" (p. 395) of current genetic counseling students with the intention of contributing to both student "recruitment, selection, and retention efforts" of genetic counselor training programs and practitioners post-degree performance and satisfaction (p. 395). Although they obtained a very good 64.9% response rate (N = 235), the small number of ethnic minorities precluded statistical analysis of between-group differences. There is no indication that this low response by minority students was a methodological shortcoming; rather, it was indicative of the very phenomenon they were researching (in part, the need to diversify the field of genetic counseling).

Demographically the researchers found that their sample was largely Caucasian (86.8%), female (97.4%), single (55.3%) with no children (96.2%), high achieving (average undergraduate GPA was 3.52), with a mean age of 25. Additionally, about one third of respondents reported at least one genetic condition in their family, although many claimed that it did not directly impact their decision to pursue genetic counseling as a career. Most respondents also reported encouragement for pursuing genetic counseling (primarily from family and friends), and approximately 25% reported discouragement (primarily from family and professors), with some reporting both encouragement and discouragement. Students reported that the top four reasons for their choice to become a genetic counselor were: "enjoy science/genetics, help others, intellectual stimulation, and believe I will be a good genetic counselor" (p. 402), and over 92% reported that pursuing their degree in genetic counseling was "the best choice" for them (p. 402).

While the Lega et al. (2005) study is limited by the small number of minority participants and could benefit from a complement of richer qualitative data, it nevertheless provides important data and sound interpretations that contribute to the professional development literature, particularly since professional development across the lifespan begins with graduate preparation. Beyond creating a picture of the genetic counseling profession's newest cohort, their study provides at least two relevant contributions to the questions about genetic counselor professional development proposed in the present study. First, less than one half of genetic counseling students in their sample were currently practicing a religion, a number well below the U.S. national average (p. 403). Spirituality and religion are discussed in the psychotherapist professional development literature (e.g., Radeke & Mahoney, 2000) as being personally meaningful and professionally advantageous as a buffer against stress and burnout for some psychotherapists. Therefore, this investigator concurs with Lega et al. (2005) who advocate for more thorough and systematic research in this area. Second, the authors found that genetic counselors' top career motivations (as discussed above) are intrinsically-based, and they recommended further research on extrinsic factors such as the "long-range effects of low salaries on job performance, satisfaction, and attrition from the profession" (p. 405). This type of research would directly contribute to better understanding of genetic counselor professional development.

Around the same time as Lega et al.'s (2005) study, Oh and Lewis (2005) conducted a paper-based survey to assess high school and college students' awareness of and level of motivation for considering and pursuing genetic counseling as a profession. They assessed a convenience sample of 233 high school and college students in several

U.S. states and Canadian provinces. Using logistic regression, they determined that students' awareness of genetic counseling as a profession was significantly related to their ethnicity, gender, parental education level, and interest in biology (p. 76), with females, Caucasians, and high parental education levels making awareness more likely. While racial/ethnic minority-identified students were less likely to have prior awareness of genetic counseling, they were equally likely to consider it as a career option. Other factors significantly related to considering genetic counseling as a career were previous awareness of genetic counseling, interest in psychology, and enrollment in/completion of a four year degree program. Overall, the authors advocated for programs to create early awareness of genetic counseling and called for further research to more fully explore the potential meaning and implications of their results.

While there are limitations to using a convenience sample (including a threat to internal validity), the authors' research intentions were to provide a "preliminary look" into questions of genetic counseling as a career choice and how the field of genetic counseling can diversify itself. Of particular relevance to genetic counselor professional development are: 1) their recommendations [similar to Lega et al.'s (2005)] for longitudinal research on genetic counseling students' through licensure and beyond that would help identify "points where individuals get out of genetic counseling as a career" so that "accompanying qualitative research may provide reasons for why they do so" (p. 80) and, 2) their assertion that more females had heard about genetic counseling than males (despite the fact that most participants overall had heard of genetic counseling through school). They speculated that "if genetic counseling is perceived as a 'female' career, males may be less likely to pay attention to it, or may be more likely to dismiss it"

(p. 79). Developing a model of professional development for genetic counselors would definitely need to consider this gender differential and its many implications.[vii]

Relatedly, the National Society of Genetic Counselors (NSGC) conducts a survey of its membership every two years to gather demographic data, salary data, and other sources of quantitative information about its members. Parrott and Del Vecchio's study (2006) was mentioned previously in the context of genetic counselor burnout and thoughts of leaving the field, but several additional findings are also worth mentioning. Seventy-one percent of 1,245 respondents were under the age of 40, 91% identified themselves as Caucasian, and 96% identified themselves as female. Most notably for conceptualizing and addressing professional development, 38% of respondents were employed as genetic counselors for 0-5 years, 29% for 5-10 years, 13% for 10-15 years, 8% for 15-20 years, and 12% for 20+ years. With over 1/3 of respondents having less than 5 years of professional experience, and 2/3 of respondents having less than 10 years of experience, it is clear that the field is "young." Thus, while all stages are important to consider and attend to when developing a model, there are relatively few participants who have been in the field for over twenty years, and the needs of its new practitioners may be particularly salient.

Parrott and Del Vecchio (2006) noted that "word of mouth" is the most common way of learning about the profession (p. 7). The most prevalent practice specialty was prenatal (54%), followed by cancer (39%) and pediatrics (34%) (participants could endorse multiple specialties). The authors also reported salaries across experience levels and geographic regions. Also of relevance to this dissertation study are the responses concerning respondent satisfaction with various components of their genetic counseling

careers. About ninety-five percent reportedly were satisfied with the "scientific content," while 94.4% were satisfied with their experiences in "patient content/counseling." Interestingly, 87.1% were satisfied with "personal growth" opportunities in genetic counseling, while 65.3% were satisfied with "professional growth" opportunities. Satisfaction with "earning potential" received the least endorsement (26.7%). These figures help to provide a more complete profile of genetic counselor demographic characteristics and their satisfaction with various components of their careers.

Finally, the only empirically based article in the *Journal of Genetic Counseling* to ask directly about professional development is that of James et al. (2003). The authors developed a 34-item questionnaire that was completed by 76 genetic counselors (a 71% response rate) representing three rural and urban settings in Australasia. Using descriptive statistics, they reported that few genetic counselors in any setting were receiving the nationally recommended amount of supervision (four hours per month for counseling supervision and four hours per month for genetics supervision), the majority had to travel in order to obtain supervision, rural counselors had the least amount of face to face contact with colleagues, and 92% of respondents in each setting were members of at least one professional organization.

One strength of this study is its attention to aspects of professional development for genetic counselors. Since a primary goal of the study was to "obtain a clearer picture of the day-to-day situation for counselors, documenting their roles and resources" (p. 440), it does not provide a great deal of relevant data for understanding genetic counselor professional development over the professional lifespan. However, it does provide important preliminary data about the researchers' conceptualization of what constitutes

professional development: contact with colleagues (genetic counselors, geneticists, and supervisors), supervision (for counseling and genetics), involvement in professional organizations (including conference attendance), and type/amount of financial backing from employer. This operational definition of professional development lacks the depth of some of the non-data based studies discussed earlier and exemplifies the need for a more consistent, thorough definition of professional development in order to better compare results.

Unfortunately, while the researchers asked respondents about certification (the Australasian equivalent of licensure), no between group differences were calculated about the professional development questions (to determine whether those who were already certified (i.e. had more years of experience) differed in meaningful ways from those currently seeking certification). A limitation of this article is its lack of detail about selection procedures (how their sample's participants were located and contacted), the results of which would help to determine to whom (if anyone) the results could be generalized. The authors do not report a theoretical grounding for their conceptualization of professional development, which renders it difficult to compare results across studies in a meaningful way. Finally, the profession of genetic counseling has evolved differently than in the U.S. and these differences, among others, may lead to variation in the professional development processes and outcomes of counselors in the two countries.

The four survey-based articles reviewed above combine to create a foundational picture of who genetic counselors are, what has motivated and inhibited them from entering the field, and who might be present in (and absent from) the field in the future. The prevalence of Euro-American women in genetic counseling in North America was

discussed, along with recommendations for diversifying the population of counselors (e.g., offering early awareness programs in high schools, publishing data about who is being admitted to genetic counseling training programs, considering the developmental needs of students, and conducting longitudinal research to explore attrition). The James et al. (2003) study also highlights the need for a professional development model that is informed by research inside and outside U.S./Canadian borders. These data generated in these studies may help to provide some context for understanding the professional development processes and outcomes of genetic counselors and as such, help to inform the development of a model of genetic counselor professional development.

Additional Professional Development Trends in Counseling Psychology and Related Literature

There is a substantial and growing literature on professional development of counselors and psychotherapists. A brief critical review of this literature is provided in the following section. Given the limited attention to professional development models in genetic counseling, literature from other counseling fields may be valuable (e.g., indicating successful and less successful methodologies, possible research questions, and salient findings). The following is an integrated description of the highlights from salient literature that would appear to be particularly meaningful for genetic counseling.[viii] While Skovholt and Ronnestad's (1992, 2003) model and Orlinsky et al.'s (2005) model have been discussed in detail previously and arguably are the most salient professional development studies in the counseling psychology literature, the following section synthesizes overall themes and trends in other salient related literature.

Similar to the genetic counseling literature, counseling and psychotherapy professional development literature contains qualitative and quantitative articles, many theoretical, some research-based; all combine to create an emerging picture of the dynamic, complex processes involved in practitioner development. In addition to the Skovholt and McCarthy (1988) "critical incidents" series (the predecessor to the McCarthy Veach et al. (2002) "defining moments" series in genetic counseling), there are personal accounts of therapists' professional development over their professional lifespan, such as Goldfried (2001) whose powerful text *How Psychotherapists Change: Personal and Professional Reflections* asks well-known psychologists to write a chapter sharing their own professional development processes.

As further evidence of the ways in which professional and personal lives intertwine for counselors, a powerful recent series in *Professional Psychology: Research and Practice* explored how psychologists applied lessons from their personal grief and loss experiences or other challenging personal experiences to their clinical practice (Anonymous, 2007; Callahan & Ditloff, 2007; DeMarce, 2007; Gregerson, 2007; Maggio, 2007; Slattery & Park, 2007; Stratton, Kellaway, & Rottini, 2007). They each reflect upon their experiences and discuss how their reactions to these events have affected their clinical work in short-term and long-term ways. For example, Callahan and Ditloff (2007) describe the inexplicable death of their unborn child, articulating how they experienced and dealt with their grief as individuals and as a couple. They also describe clients' mixed reactions and how it could be confusing for psychologists to reconcile that they were grieving individuals while simultaneously being psychologists. Based on their experiences, they recommend that clinicians be mindful of how grief can "resurge" over

time and how positive social support—both for clinicians and for clients—can contribute to resilience (p. 552). It is clear when reading these articles how personal life affects one's professional identity, awareness, and skills in ways that cannot be "taught" in a classroom but are of pivotal importance to one's professional development over time.

Thematically, some of the research on *positive* professional development operationalizes terms such as "well-functioning" (Coster & Schwebel, 1997), "passionately committed therapists" (Dlugos & Friedlander, 2001), and "career-sustaining behaviors" (Rupert & Scaletta Kent, 2007)[ix]. Together, these three exciting studies represent a growing body of literature that examines professional development through the lens of "positive" or desirable development. They begin their promising qualitative and quantitative research from the "top down" by sampling those exhibiting the desirable traits and processes under investigation. Each of these research teams pay acute attention to the intersections between and mutual influences of personal and professional life. For example, they recommend establishing and maintaining professional boundaries, engaging in meaningful interactions with colleagues, and practicing self-care (as a result of self-awareness); and pursuing feedback from multiple sources (e.g., through supervision). Further, there is an entire (substantial and growing) body of literature on optimal development and master therapists not discussed here.[x]

Research on *negative* professional development is also growing rapidly. While a promising area of research, the fact that impairment, burnout, and "negative avenues" of development are as prevalent as they are is disconcerting. Geller, Norcross, and Orlinsky (2005) published a book length project on therapists' own psychotherapy, with a variety of input sources (e.g., literature reviews, personal accounts of therapists and clients).

They view therapy as one means of dealing with impairment, although they do not equate therapists' seeking of therapy with impairment. Rupert, Stevanovic, and Hunley (2009) surveyed psychologists about their experiences of burnout as a function of gender and work setting, and posited that their research "support[s] the interdependence of family and work life domains of professional psychologists" (p. 59). They recommended that strategies developed to reduce burnout should target the integration of one's professional and personal life roles. Relatedly, Stevanovic and Rupert (2009) discussed how "work-family spillover" can both positively and negatively affect one's professional functioning (positively when one feels a sense of professional accomplishment, and negatively when one feels "emotionally exhausted" in one area, which likely affects the other area as well). They reiterated the importance of developing coping strategies for dealing with difficult emotions as well as developing strategies for balancing life and work roles.

Other related work includes Siebert and Siebert's (2007) examination of how role identity theory may explain some therapists' unwillingness to seek help when they are impaired[xi]. Compassion fatigue, as discussed in Benoit et al. (2007) is also receiving much attention, particularly through the work of Figley. Adams, Boscarino, and Figley (2006) successfully performed a validation study of a compassion fatigue instrument used assess compassion fatigue in social workers working in New York City after 9/11.[xii] Burnout is also being studied by researchers such as Cherliss (1995), Grosch and Olsen (1994); and Skovholt (2001). Partly as a result of this literature, more work is being published on prevention and self-care (cf. Barnett, Baker, Elman, & Schoener, 2007; Skovholt, 2001).

Summary

As this literature review demonstrates, more professional development is occurring than we understand or have explored thoroughly in the literature, particularly in the field of genetic counseling. In in order to answer the question of what exactly constitutes professional development for genetic counselors, there is a clear need for more research on the extent to which their professional development fits with—is explained by and is reflected in—models from related fields such as Ronnestad and Skovholt's (2003) and Orlinsky et al.'s (2005) models. Therefore, questions such as: 1) What constitutes professional development for genetic counselors? 2) How do professional development processes occur for genetic counselors? 3) What facilitates and/or impedes professional development? cannot yet be answered comprehensively and convincingly based on the data that are available currently. However, some themes have emerged that characterize the unique professional development processes of genetic counselors, both positive and negative development. With respect to negative development, Benoit et al.'s (2007) and Udipi et al.'s (2008) work on compassion fatigue, and the NSGC's (2006) report on 15% of genetic counselors considering leaving the field, 46% of whom cite "burnout" as a major reason, demonstrate that there are very real challenges involved in practicing genetic counseling. These risks may be particularly great when practitioners lack adequate support and/or understanding of their developmental experiences. Some recommendations for addressing these risk factors, include: consultation with colleagues, peer supervision, continuous self-reflection, time for self-care, and breaks from difficult work.

This review of the literature suggests that the nature of professional development for other counselors may be quite similar to that for genetic counselors, in particular: increased competence and confidence, professional role and identity crystallization, more sophisticated integration of personal and professional experiences, continuous self-reflection, and openness to learning. As such, Ronnestad and Skovholt's (2003) fourteen themes of counselor development appear to capture at least some of the professional development processes conveyed in the data-based and personal reflective genetic counseling literature. Particularly salient themes are: "Professional development involves an increasing higher order integration of the professional self and the personal self"; "Professional development is a life-long process"; "Many beginning practitioners experience much anxiety in their professional work. Over time, anxiety is mastered by most"; "Personal life influences professional functioning and development throughout the professional lifespan"; "Extensive experience with suffering contributes to heightened recognition, acceptance, and appreciation of human variability"; and "Interpersonal sources of influence propel professional development more than 'impersonal' sources of influence" (Ronnestad & Skovholt, 2003).

However, Skovholt and Ronnestad's model does not adequately address the following issues that may be unique to genetic counselors and their developmental processes: the predominance of females in the genetic counseling field; the everyday high stakes ethical dilemmas and decisions genetic counselors encounter; rapidly changing technology and genetic information that genetic counselors are responsible for knowing and being able to explain to patients; the ongoing need to assert one's individual and professional worth to some fellow professionals; and the responsibility some genetic

counselors feel when positive test results evoke patient suffering. These are substantial areas that can (and do) influence professional development for genetic counselors and they would need to be better accounted for and reflected in a genetic counselor professional development model. More systematic research, therefore, is needed to substantiate these tentative observations.

The literature shows that genetic counseling could benefit from a model of professional development in order to best conceptualize the needs of their own counselors, rather than relying on the models posed in the counseling psychology literature. In keeping with McCarthy Veach et al.'s (2002a) charge for the "profession to find itself by articulating" its own models (p. 190), it is time for the profession to create a model of practitioner development.

Purpose of the Present Study

The present study was designed to address a gap in the literature that genetic counselors have been asking to have filled (cf. recommendations for sharing stories and exchanging information in Abrams & Kessler, 2002; McCarthy Veach et al., 2002; Resta, 2002). Further, this study provides a bridge between the two main approaches to professional development in the extant genetic counseling literature: 1) personal essays that provide a rich but unsystematic picture of professional development, and 2) systematic studies of isolated components of professional development, such as compassion fatigue or peer group supervision. It was hoped that this study would lay the groundwork for further professional development research, including the possibility of developing a comprehensive model of professional development for genetic counselors throughout their professional lifespan.

Consistent with the theoretical foundation provided by the literature reviewed in this chapter, professional development of genetic counselors throughout their lifespan was explored Using semi-structured telephone interview conducted with 34 genetic counselors who varied in their years of professional experience, three major research questions were investigated: 1) What constitutes professional development for genetic counselors? 2) How do these professional development processes occur for genetic counselors? 3) What facilitates and/or impedes their professional development? 4) How does genetic counselor professional development vary as a function of experience level? 5) How does genetic counselor professional development compare/contrast to psychotherapist development models described by Skovholt and Ronnestad (1992) / Ronnestad and Skovholt (2003) and Orlinsky et al. (2005)? Phenomena that comprise influences, supports and impediments to their professional development were investigated.

Given the importance of better identifying, understanding, and addressing the ways in which genetic counselors develop throughout their career, this type of initial exploratory research is needed to gain a basic understanding of their professional development processes and to identify further areas for systematic study. Currently no published literature systematically explores these issues for genetic counselors, although there is literature about therapists, nurses, teachers, and other professionals.

Figure 1.

Ronnestad and Skovholt's (2003) 14 Themes of Counselor Development

Number	Theme
1	Professional development involves an increasing higher order integration of the professional self and the personal self.
2	The focus of functioning shifts dramatically over time, from internal to external to internal
3	Continuous reflection is a prerequisite for optimal learning and professional development at all levels of experience.
4	An intense commitment to learn propels the developmental process.
5	The cognitive map changes: beginning practitioners rely on external expertise, seasoned practitioners rely on internal expertise.
6	Professional development is a long, slow, continuous process that can also be erratic.
7	Professional development is a life-long process.
8	Many beginning practitioners experience much anxiety in their professional work. Over time, anxiety is mastered by most.
9	Clients are a major source of influence and serve as primary teachers.
10	Personal life influences professional functioning and development throughout the professional life span.
11	Interpersonal sources of influence propel professional development more than "impersonal" sources of influence.
12	New members of the field view professional elders and graduate training with strong affective reactions.
13	Extensive experience with suffering contributes to heightened recognition, acceptance, and appreciation of human variability.
14	For the practitioner there is a realignment from self as hero to client as hero.

From Ronnestad and Skovholt (2003), p. 27-38.

Figure 2.

McCarthy Veach et al's (2002) "Defining Moments" Series as Illustrative of Ronnestad and Skovholt's (2003) 14 Themes of Counselor/Therapist Development

Ronnestad and Skovholt Theme	**Examples from the "Defining Moments" Series That Illustrate Each Theme**
"Many beginning practitioners experience much anxiety in their professional work. Over time, anxiety is mastered by most."	●Hagemoser-Platt & Reiser eulogize their colleague, Peggy, who died shortly after becoming a genetic counselor. They say that recently "She started telling me about all the schooling, training, and all of the trials and tribulations she had gone through to become a genetic counselor, and then she said that today she had finally seen it all come together for her…. 'It just clicked.' Now she really felt that she was doing her job and that she was a genetic counselor" (p. 294). ●Woo refers to her "second-guessing of [her] own abilities and worth" (p. 296). ●Drake, then a current student, describes two incidents that helped her "to overcome [her] feelings of self-doubt as a new genetic counselor" (p. 305).
"Clients serve as a major source of influence and serve as primary teachers."	●Valverde writes, "My didactic training gave me a basic understanding of genetic diseases, but my true learning came from my interactions with patients and their families" (p. 285) through providing support as families experienced birth defects. ●In dealing with the loss of her partner, Woo writes, "Patients amazed and inspired me with their strength, their grace, their fortitude, their gratitude despite their grief…I realized that I, too, have such grace…" (p. 297). ●In a less flattering light, Gold describes an ethical and moral dilemma wherein a patient asks her to lie for her and says, "I was happy to never speak to this woman again" though she learned "never to allow myself to be placed in this situation again" (310-311).
"Extensive experience with suffering contributes to heightened recognition, acceptance, and appreciation of human variability."	●When Woo lost her partner to heart failure at a young age the year after graduate school, she felt intense grief that she believes helped her become more "compassionate" (p. 297).

"Continuous reflection is a prerequisite for optimal learning and professional development at all levels of experience"	● Keilman writes that, "I have always valued the work that we do as genetics professionals, but since I have been counseled myself I now *feel* this rather than just *know* it" (p. 290). By becoming the mother of a daughter with Klippel-Trenaunay and shifting roles to become a patient, she began conceptualizing her clients, her experiences, and her work differently; she grew.
"Professional development is a long, slow, continuous process that can also be erratic"	● Schmerler, a non-urban genetic counselor, writes about an experience where an urban genetic counselor informed a client of Schmerler's that she would not get adequate care if she shifted from the urban to a rural genetic counseling facility. Schmerler was outraged but found this undermining to impel her toward developing a code of ethics for genetic counseling: "Looking back over my professional life, I may even owe that genetic counselor a thank you for being the catalyst that set me on a path which lead to the development of an interest that has sustained me for all of these years" (p. 314). ●Morris finds that unionization helps her "pull back from the brink of burn out and look forward to better days ahead as a genetic counselor and vice-president of our local union" (p. 324).
"Professional development is a life-long process"	● Edwards writes of her proactive assertion that she ought to maintain her faculty status: "My voice is now equal to my fellow faculty members, and is even becoming more senior. Had I not advocated for myself, I would likely still be rolling along, directing graduate genetic counseling study without real recognition from my institution" (p. 326).
"An intense commitment to learn propels the developmental process"	● Bennett sought out a seminar on research methods and ended up not only learning "the tools to organize [her] thoughts, and to be more analytical in [her] purview of journal articles as well as when reviewing submitted articles" but also emerged with the more unexpected realization that "genetic counselors have important messages" (p. 320). ● Benkendorf & Prince write about their experiences with "sociolinguistic discourse analysis" of audiotapes of their genetic counseling sessions (p. 329) that led them to realize unexpected commonalities between their styles and to ponder whether "there is a universal genetic counseling style and how the heck it has been passed down through so many different training programs" (p. 331). They write that their experience "has not ended. Rather, it has taken us to a new place as genetic counselors. Our mid-career discovery…has had innumerable benefits" (p. 331).

CHAPTER THREE

Method

Design

This qualitative study used a modified version of Consensual Qualitative Research (CQR) (Hill, Knox, Thompson, Nutt Williams, Hess, & Ladany, 2005) to examine the questions: What is professional development? and How does professional development happen for genetic counselors? Examples of the modified CQR method in genetic counseling research are McCarthy Veach, Bartels, and LeRoy (2001); Benoit, McCarthy Veach, and LeRoy (2007); and Zahm, McCarthy Veach, and LeRoy (2008). Because so little has been published on the professional development of genetic counselors, a qualitative approach was selected in order to explore the phenomenon and spark additional research using a variety of methodologies.

Participants

Upon approval by a University of Minnesota Institutional Review Board (Please see Appendix E), participants were solicited from full members of the National Society of Genetic Counselors (NSGC) listserv (estimated N = 1,312; please see attached Appendix A for the participation invitation). The first invitation was sent on January 28, 2008 (164 genetic counselors responded) and a follow-up invitation was sent on February 21, 2008 (an additional 67 genetic counselors responded), for a total of 231 genetic counselors participating in the online survey.

Of these 231 respondents, 96 voluntarily provided an email address in order to be contacted to schedule a 45 minute phone interview regarding their professional development processes and experiences. From these 96, potential participants were

selected based on two predetermined inclusion criteria: 1) worked in direct service with patients for approximately 20 hours per week on average within the past two years, although they need not be currently practicing; and 2) was a post-degree genetic counselor (i.e., not a genetic counseling student). A cross-sectional design was employed to include participation by 10 participants each in three categories, named with terms developed by Ronnestad and Skovholt (2003): Novice professional (0 - 5 years of post-degree experience), Experienced professional (6-15 years of post-degree experience), and Seasoned professional (≥ 15 years of post-degree experience). Ten participants were chosen in each grouping because Hill, Thompson, and Williams (1997) argue that 8-15 participants typically are sufficient for saturation (redundancy) of data.

Initial inspection of the data revealed that due to the wording of survey items, it could not be determined how much of respondents' total years of accrued practice experience involved direct service with patients, only whether they were currently practicing 20 hours per week on average or had done so in the past two years. Several respondents commented that they were genetic counseling program directors and/or were involved in education, leading this investigator to conclude that they comprised an important segment of the genetic counselor population that would not be accessed using the inclusion criteria as stringently defined for this study. Excluding these genetic counselors who clearly had accrued substantial amounts of direct service with patients during their careers would seem to disproportionately exclude highly experienced genetic counselors who had shifted into different roles. Indeed, being able to access this group of highly experienced genetic counselors seemed particularly important in order to investigate the very phenomenon of interest, that is, professional development (how one

changes, evolves, and grows throughout his/her career). Therefore, in order to maintain the integrity of the study with its focus on genetic counselors who provide direct service to patients, a decision was made (with IRB approval; See Appendix E) to: 1) modify the inclusion criteria to also involve genetic counseling program directors and other experienced professionals who had not necessarily practiced at least 20 hours per week on average in direct service with patients during the past two years, and 2) to increase the number of participants in each of the three experience levels from a maximum of 10, to a range of 10 to 15. Increasing the number of participants would further ensure saturation of data, particularly at the upper levels of experience where redundancy might not be as quickly reached as in the novice experience level.

The final sample consisted of 34 genetic counselors, 10 novice genetic counselors (0-5 years of experience); 12 experienced genetic counselors (6-15 years of experience); and 12 seasoned genetic counselors (>15 years of experience). The sample was limited to genetic counselors in North America, as all of the online survey respondents who expressed interest in further participation by providing email addresses were located in North America. An effort was made within each experience level to include a diversity of practice specialties, ages, genders, years of experience, and ethnicities. For example, an attempt was made to include at least one genetic counselor representing each year of experience, so in the novice category of 0-5 years of experience, at least one participant was selected from 0-1 years of experience, 1-2 years, and so forth. Further, inclusion of at least one participant from all six NSGC regions was obtained for the novice and experienced categories, and 5 of 6 regions were represented in the seasoned professional category.

After potential participants responded to the initial email invitation, a follow-up email was sent by this investigator asking them to indicate their availability during a designated time frame (Please see attached Appendix B for follow-up email). One follow-up email was sent to interested participants who had not responded to the first email, and several participants in the seasoned practitioner category received two follow-up emails. If an individual did not respond within the time frame indicated, another participant was selected from the list of potential participants who had indicated interest. A total of 60 respondents were contacted in order to obtain the 34 individuals who were interviewed.

Instrumentation

Survey. A brief online demographics survey was developed and posted on Survey Monkey. Seven items elicited information concerning ethnicity, gender, current practice specialty, years of experience, etc., and one question asked whether respondents were interested in participating in a 45-minute telephone interview about their professional development experiences. Data from the online survey were used to elicit contact information and demographics of potential participants for the telephone interview.

Interview protocol. A telephone interview format was used to allow for a more geographically diverse sample. Further, it was posited that the anonymity of a phone interview relative to in-person interviews might elicit more personal responses to the questions asked. A semi-structured interview (See Appendix G) was developed by this investigator. A semi-structured interview allows for open-ended responses, although some prompts are pre-designed or spontaneous in order to elicit the richest, most

thorough data possible (Patton, 1990). Participants did not see the interview questions prior to the interview.

The interview questions are: a) grounded in theoretical approaches to professional development described in the counseling psychology literature (Orlinsky, Ronnestad, and the Collaborative Research Network of the Society for Pyschotherapy Research, 2005; Ronnestad & Skovholt, 2003; Skovholt & Ronnestad, 1992a), and b) informed by professional development phenomena described in the genetic counseling literature (Abrams & Kessler, 2002; Benoit et al., 2007; Matloff, 2006; McCarthy Veach, 2006; McCarthy Veach, Bartels, & LeRoy, 2002 a, b, c; Resta, 2002, e.g.). Development of the interview questions was also done in consultation with a seasoned professional genetic counselor and a counseling psychologist who have experience conducting genetic counseling research.

Orlinsky et al. (2005) write that they created the Development of Psychotherapists Common Core Questionnaire DPCCQ to "ensure [that it] would be experienced by respondents as the written equivalent of an interview among colleagues" (p. 18). Indeed, David Orlinsky provided written permission (Orlinsky, personal communication, 9/7/2007) to use the open-ended questions from the DPCCQ (1991) as the basis for the present semi-structured interview. Tom Skovholt provided verbal permission to use questions from his qualitative study of counselor/therapist professional development and he is one of the dissertation committee members who approved the interview protocol.

Seven questions from the DPCCQ were included in the interview protocol because they have been used successfully by Orlinsky in a large-scale study [including an aggregate international sample of $N \approx 5{,}000$ therapists; the instrument has been translated

into 20 languages, and multiple studies have been published analyzing the results (e.g., Orlinsky, Botermans, Ronnestad, and the SPR Collaborative Research Network, 2001; Orlinsky, Ronnestad, Ambuhl, Willutzki, Botermans, Cierpka et al., 1999)]. A further advantage of using DPCCQ questions as they appear on the questionnaire is that it may allow for some comparison of results. However, results of analyses of the DPCCQ's open-ended questions have not been published (Orlinsky, personal communication, 9/7/2007), and possibly have not yet been performed. The only known investigation of open-ended questions is an unpublished thesis by Maren Helland (2006), supervised by Helge Ronnestad, the second author of the Orlinsky et al. (2005) study. In their study, Helland and Ronnestad (unpublished manuscript, 2006) analyzed 4 open-ended questions (regarding perceived limitations) of forty-four Norwegian therapists who showed evidence of "stressful involvement" in their practice.

The final interview protocol included sixteen open-ended questions—many of them multi-part questions—derived from three sources: 1) six open-ended questions from Orlinsky et al.'s (2005) DPCCQ (slightly modified as appropriate for genetic counseling); 2) three questions from Skovholt and Ronnestad's (1992a) original semi-structured interview study (slightly modified as appropriate for genetic counseling); and 3) seven questions created by this investigator, based on the genetic counseling literature and experiences working with genetic counselors. There was also one multi-part question adapted from Orlinsky et al.'s (2005) DPCCQ that asked participants to rate fourteen potential influences on their professional development on a four-point Likert scale. The interview questions were designed to begin with less personal or "threatening" questions and move toward more personal or perhaps difficult questions by the end of the

interview. Hill et al. (2005) suggest that 8-10 open-ended research questions be used per interview hour, although the nature and scope of the questions render this number variable. For the present interview protocol, 16 multi-part questions were used, some questions being shorter and less involved than others, and some with optional prompts or subparts. These questions investigated the following topics: views of helping, succeeding with patients, and definitions of professional development (including how all of these have changed with time and experience); mutual influences of personal life and professional life; motivations to practice and remain in the field of genetic counseling; stages of professional growth or "turning points"; and challenges in working with genetic counseling patients, for example.

During each interview, the final question involved asking each participant to rank the influence of each of 14 items on their professional development on a four-point Likert scale. The 14 items were used, with permission, from Orlinsky et al.'s DPCCQ, with three items added to make the influences more relevant to the field of genetic counseling. More specifically, this investigator added: 1) "genetic counseling" to "personal therapy, analysis, or counseling" so participants could rank the influence of any experience as a patient/client; 2) "working with other professionals" given how integrally connected genetic counselors typically are to medical teams and physicians, for example; and 3) "giving supervision" based on the feedback of five pilot participants.

The interview was piloted in November 2007 with five genetic counselors who had worked in direct service with patients in the last two years, and then subsequently the interview protocol was approved by the dissertation author's Thesis Panel, comprised of two counseling psychologists and one genetic counselor, all with extensive experience in

qualitative research (please see attached Appendix G, the Interview Protocol, for the specific interview questions). The five pilot participants represented each of the three experience levels, novice, experienced, and seasoned and included male and female participants. Minor revisions to the interview protocol were made based on their feedback.

Procedures

This investigator contacted each participant via email and then via telephone to conduct a thirty- to sixty-minute semi-structured interview. Before conducting the interviews, the research team "bracketed their biases" about the data as follows: 1) Personal life and professional life are necessarily intertwined and influence each other in powerful ways. More specifically, we approached the study expecting to find that clinical work has largely influenced one's personal self, while one's personal self [particularly losses, becoming parents, being a genetic counseling patient (if relevant), relationships, and other major life events] would largely influence one's professional identity and practice as a genetic counselor. 2) Genetic counselors will likely develop similarly to the practitioner development model proposed by Skovholt and Ronnestad (1992/2003) and consistent with the research done by Orlinsky et al. (2005), with some field-specific differences. That is, we expected that the study would likely identify some key similarities between genetic counselors and other counseling professionals (perhaps decreased anxiety over time, professional and personal lives influencing each other, and professional development not occurring linearly). 3). Professional development is not easily measured. 4) Professional experience does not equal professional competence or even optimal professional development; thus, professional development is unlikely to

occur in a linear, precisely predictable fashion. 5) Professional development is an important topic to study and an important topic for genetic counselors to understand more thoroughly. 6) Professional development does not occur in isolation but in contact and relationship with others. Thus, those who work independently/in isolation may have a different professional development path than those who collaborate as part of a team or work closely with other genetic counselors. 7) Professional development is not simply synonymous with career development, nor is it simply completion of continuing education credits. 8) Participants' identification of difficult issues in sessions will likely be primarily psychosocial in nature.

The interviews occurred over a six week period, from February 2008—April 2008, and were scheduled according to availability. Each interview was conducted via telephone at a pre-arranged time at the phone number/location provided by the participant. Before each interview officially began, demographic information was verified and informed consent was obtained, including for audiotaping the interview. In accordance with a semi-structured interview format, each interview question was asked in approximately the same order, except, for example, when participants alluded to and answered a later question earlier in the interview (Hill et al., 1997).

The interviews were transcribed promptly to ensure accuracy (by May 2008), 25 of them by this investigator, and 9 by a transcription service. The 9 interviews transcribed by the transcription service were verified by this investigator, and several were listened to in order to further ascertain details of the interview that were inaudible or undecipherable to the transcription service.

The research team consisted of four individuals: The present investigator who has a masters degree in counseling psychology and prior experience conducting qualitative phone interviews (see Zahm et al., 2008); a licensed psychologist with extensive experience in qualitative research with genetic counselors; a board-certified genetic counselor and genetic counseling program director; and a fourth investigator with a masters degree in counseling psychology.

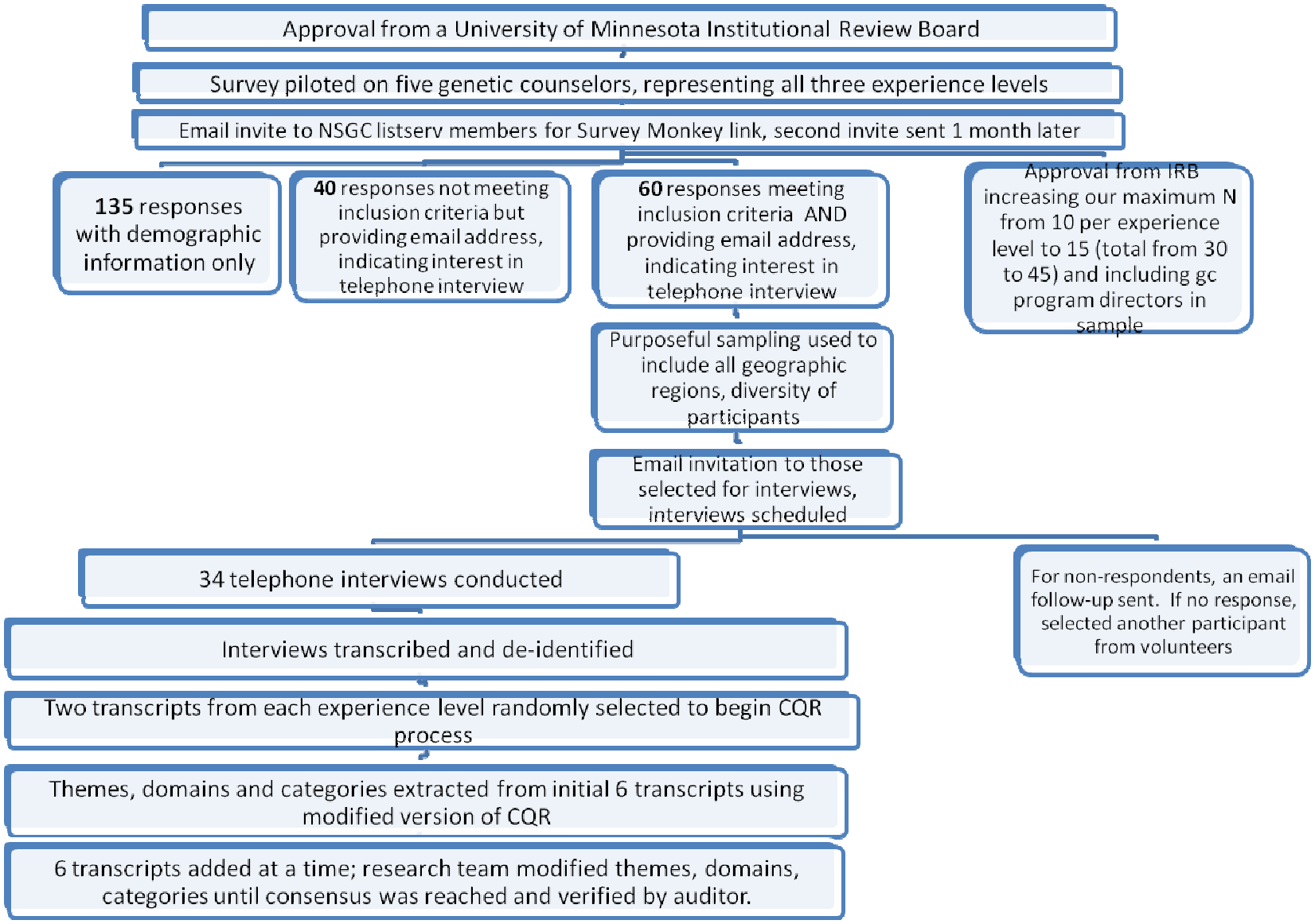
Data Analyses

Inductive analysis was the primary mode of data analysis for this study. More specifically, a modified version of Consensual Qualitative Research (CQR) (Hill et al. 1997, 2005) was used to manually analyze interview data. The CQR methodology is based upon elements of phenomenology, grounded theory, and comprehensive process analysis (Hill et al. 2005). Hill et al. describe three essential steps to data analysis in CQR: development of domains (rationally derived topic areas), construction of core ideas (interviewees' actual words), and creation of cross-analyses (comparisons across interviews). These steps allow for an organic emergence of themes from the interview data instead of an imposition of a pre-existing analytical framework. Another benefit of CQR is the inclusion of a comparison across participants for each individual interview question. The principal investigator and one member of the research team engaged in an independent process of inductive analysis, initially working with two randomly selected transcripts from each experience level. First, domains were created into which interview content was assigned to categories (more specific topics within domains). The domains and categories were then used to code the data in every transcript. On occasion

throughout the coding process, decisions were made to add or modify a domain or category in order to more clearly represent the data. Next, each transcript was reviewed again to reify that the data belonged in the domains and categories. Finally, the domains and categories were verified; that is, they were reviewed by a member of the research team, and disagreements were discussed until consensus was reached.

The secondary mode of analysis for this study included calculating descriptive statistics, particularly for the data derived from the DPCCQ and for demographic data.

Figure 3. Methodology Flow Chart



CHAPTER FOUR

Results

The purpose of this study was to explore genetic counselors' perceptions of how they develop professionally throughout their careers. Using a modified version of Consensual Qualitative Research (Hill, Knox, Thompson, Nutt Williams, Hess, & Ladany, 2005), themes, domains, and categories were inductively extracted from participants' responses. Examples of actual responses are included in the form of illustrative quotations. Quotations were superficially edited for grammatical clarity.

Participant Characteristics

Participants' characteristics are summarized in Tables 1 and 2. The majority were female (91.18%) and European American (94.12%). Their mean age was 38.71 years (Mdn = 38; R: 26-58). They represented all six NSGC regions. Participants had a mean of 12.18 years of post-degree experience (Mdn = 9.5; R: .75 – 31). Practice settings varied, with community hospitals, academic medical centers, and nontraditional settings being represented. A variety of practice specialties were represented, whether the participants were currently or previously involved in those areas. Many participants endorsed more than one specialty. Consistent with genetic counseling literature (e.g., Parrott & Del Vecchio, 2006), the most prevalent current specialties were: prenatal (13/34), familial cancer risk (13/34) and pediatric (10/34). The vast majority (31/34) were currently practicing at least 20 hours per week in direct service with patients or had done so within the past two years. Of the remaining three, all had over 10 years of clinical experience, one currently had some weeks where she practiced almost full time with

clients and some weeks where she had other obligations; and two were genetic counseling program directors who were heavily involved in the clinical preparation of their students.

Table 1. Participant Demographics for Categorical Variables

Variable	Novice 0-5 years (n=10)		Experienced 6-15 years (*n* = 12)		Seasoned >15 years (*n* = 12)		Total sample (*N* = 34)	
	n	%	*n*	%	*n*	%	*n*	%
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]								
Alaskan Native / American Native	--		--		--		0	
Asian / Pacific Islander	--		--		--		1	2.9
African-American / Black	--		--		--		0	
Bi-racial / Multiracial	--		--		--		0	
Chicano/a / Hispanic / Latino/a	--		--		--		0	
European-American / White	--		--		--		32	94.1
Other	--		--		--		1	2.9
NSGC region								
Region 1	1	10.0	1	8.33	0	0.00	2	5.88
Region 2	0	0.0	3	25.00	2	16.67	5	14.71
Region 3	1	10.0	1	8.33	3	25.00	5	14.71
Region 4	4	40.0	3	25.00	4	33.33	11	32.35
Region 5	1	10.0	1	8.33	1	8.33	3	8.82
Region 6	3	30.0	3	25.00	2	16.67	8	

								23.53
Current practice specialty or specialties[b]								
Assisted reproductive technologies / Preimplantation	0	0.0	0	0.0	0	0.0	0	0.0
Cardiovascular genetics	1	4.76	1	8.33	0	0.0	2	3.45
Familial cancer risk	4	19.05	4	33.33	6	24.0	14	24.14
General genetics	3	14.29	0	0.00	4	16.0	7	12.07
Industry/Clinical lab	0	0.00	1	8.33	0	0.0	1	1.73
Metabolic / Lysosomal Storage Diseases	1	4.76	1	8.33	0	0.0	2	3.45
Neurogenetics	1	4.76	0	0.00	1	4.0	2	3.45
Pediatric counseling	5	23.81	1	8.33	4	16.0	10	17.24
Prenatal counseling	5	23.81	2	16.67	6	24.0	13	22.41
Private practice	0	0.00	0	0.00	0	0.0	0	0.00
Psychiatric disorders	0	0.00	0	0.00	0	0.0	0	0.00
Public health	0	0.00	0	0.00	2	8.0	2	3.45
Research	0	0.00	1	8.33	0	0.0	1	1.73
Other	1	4.76	1	8.33	2	8.0	4	6.90

Note. [a]Racial/ethnic identification is only reported for the total sample in order to preserve participant anonymity;
[b]Participants could endorse multiple specialty areas.

Table 2. Participant Demographics for Continuous Variables

	Age in years			**Years of post-degree experience**			
	Mean	SD	Md	Mean	SD	Md	R
	R						
Novice 0-5 years (*n* = 10)	29.4 26-35	3.02	29	2.78	1.55	2.5	.75-5
Experienced 6-15 years (*n* = 12)	37.33 31-53	5.89	37.5	9.46	2.55	8.5	6-14
Seasoned >15 years (*n* = 12)	47.92 40-58	5.37	47.5	22.58	4.62	22.0	16-31
Total Sample (*n* = 34)	38.71 26-58	9.06	38.0	12.18	8.97	9.5	.75-31

Clinical Impressions of Participants' Interview Behaviors

Participants' interviews ranged in length from 26 to 64 minutes (mean = 39.24 minutes; Mdn = 38 minutes). Including brief clinical impressions of the participants' behavior may provide some context for better understanding the data. This dissertation author served as the interviewer for all thirty-four participants. It was this interviewer's impression that most participants seemed open during the interview, forthcoming with their responses, and actively engaged in the interview process. Several individuals became tearful when sharing their experiences with memorable patients/sessions, for example. However, several participants noted that they purposely were withholding information due to confidentiality concerns or fear of being overheard/monitored while at their workplace while participating in the interview. For example, one participant indicated in a hushed tone that she had been wanting to switch jobs but did not want to go into detail while at work; another disclosed that she was struggling with an ethical dilemma at work regarding a colleague but would not elaborate for confidentiality reasons. It is the interviewer's perception that the genetic counselors who participated in the interview from their home were slightly more talkative, and possibly more candid, than those who participated at work. Possible reasons for this difference include less freedom to talk about issues in their workplace, fewer distractions from work interruptions and/or time constraints (e.g. having a patient scheduled immediately after the interview and not elaborating as much as one might otherwise do). Although most participants participated in the interview from their workplaces, the majority did not seem *closed off* in their responses.

If any question seemed to elicit some hesitation from participants, it was the question, “How have events in your personal life affected your professional development?” While many seemed to openly disclose personal matters such as having children, infertility, or losing a loved one, for example, a few spoke in generalities that made it clear they did not want to provide greater detail. This investigator respected their privacy and after one gentle follow-up (e.g.,Would you like to say more about that experience?) refrained from asking any pointed follow up questions. Those individuals who did not respond at length to this question intimated that because they did not have children or did not have a major life crisis, their personal life was irrelevant or unimportant. It was this author’s impression that Runyon’s data (2009) and Udipi’s data (Udipi, McCarthy Veach, Kao, & LeRoy, 2008) gathered as a completely anonymous, writing-based format perhaps elicited more “raw” data—highly personal and difficult experiences about which the present participants might have felt embarrassed, ashamed, or quite distressed to discuss when personally interviewing.

As expected, some participants talked at length and needed to be “reined in,” while others needed multiple follow up questions to elicit richer responses. Several mentioned that the questions made them “think” and were “good questions.” While some immediately responded to questions, many asked for a few moments to formulate responses. It was clear that some participants continued to think about previous questions as they considered new questions; by the end of the interview several participants revisited earlier questions by commenting on them, changing previous answers, expounding upon previous answers, or connecting previous answers to later answers.

Many participants expressed interest in the topic of professional development for genetic counselors, and a number commented that research on this topic is needed in the field. Several remarked on the broadness of the term "professional development," and one participant indicated that she had volunteered for the study with the hope of contributing to a discussion of how the profession of genetic counseling can develop itself further, rather than related to the definition of "professional development" as provided in the invitation. Nearly every participant commented on the field of genetic counseling, including genetic discoveries, the proliferation of genetic knowledge, and such issues as DNA-mapping, billing, licensure, and insurance, for example. Some participants initially seemed to conflate "professional development" with "career development," but by the end of their interviews seemed to consider "professional development" more broadly.

A number of participants expressed knowledge of and respect for one or more members of the research team's work. Halfway through the interview, well after the informed consent process, one participant expressed concern that she knew two members of the research team and noted that she wondered what those members would think of her after reading her responses. The investigator revisited the question of confidentiality, explained the process briefly (as discussed and agreed to in the initial informed consent process) and asked her if she had any further questions about it. She consented to continue the interview and asked me to strike one sentence that she had just provided from the record, as she had concerns it would be something she would not want fellow research team members to know.

All participants indicated a willingness to be contacted in the future for follow-up interviews. A minority asked if they could receive the results once the data were analyzed, and a few inquired as to the patterns and themes this researcher had been finding across participants' interviews.

Analysis of Participant Responses to Interview Questions

Data analysis yielded three themes: 1) Being a clinician: Genetic counselors' evolving perceptions of and relationships to their clinical work; 2) The field itself: Genetic counselors' evolving perceptions of and relationships to the field of genetic counseling; and 3) Being a clinician in the field: Genetic counselors' evolving perceptions of and relationships to their role as a genetic counselor. Data were multiply coded when appropriate. Further, there were a few exceptions where time constraints or poor tape quality resulted in some data not being coded. Responses that could not be reliably classified were excluded from coding. Throughout the following sections, *n*'s refer to total number of responses, not to the number of individual participants. For these reasons, *n*'s in each domain typically exceed 34, the total number of participants. While most categories included similar *n*'s from each experience level (novice, experienced, and seasoned), *n*'s from each experience level are reported for clarity and comparison. Summary and further explanation of data are included at the end of domains where particularly complex data are presented. For example, when participants described how their views have changed and evolved over their career, their descriptions are discussed at the end of each relevant domain. Also, the illustrative quotations that have been selected are meant to represent the range of data included in that particular category. Quotes from each experience level (novice, experienced, and seasoned) are included wherever

possible; some categories did not include every experience level, while others included only a very small number that were not necessarily the most illustrative examples that could be used. Table 3 enumerates each theme, domain, category, and their frequencies.

Theme 1. Being a Clinician: Genetic Counselors' Evolving Perceptions of and Relationships to their Clinical Work

As stated previously, this study focused on the professional development processes of genetic counselors who currently or have recently practiced clinically with patients. Given extant literature (Runyon et al.,2009; Udipi et al., 2008), effects of clinical work on genetic counselors' professional development processes and on their personal lives may be substantial. Thus, this theme focuses on how genetic counselors viewed themselves as clinicians, including

Table 3. Qualitative Data Presented in CQR Format

Theme	Domain	Category	Total Sample	Novice (n=10)	Experienced (n=12)	Seasoned (n=12)
Being a clinician: Genetic counselors' evolving perceptions of and relationships to their clinical work			(N = 242)			
	Components of Helping		(59)			
		Provide education and resources	23 Typical	7 Typical	8 Typical	8 Typical
		Provide emotional support	21 Typical	7 Typical	6 Typical	8 Typical
		Facilitate autonomous and informed decision-making	15 Variant	5 Typical	5 Variant	5 Variant
	Defining and Identifying "Success" With Patients		(56)			
		Directly observing patients benefiting from genetic counseling	21 Typical	6 Typical	9 Typical	6 Typical
		Direct communication of success	17 Typical	5 Typical	6 Typical	6 Typical
		"Gut feeling"	8 Variant	3 Variant	1 Rare	4 Variant
		Patient Nonverbal indicators	5 Rare	2 Variant	1 Rare	2 Rare
		Additional contact	5 Rare	0 Rare	2 Rare	3 Variant
	Difficult issues in sessions/Patient challenges		(49)			
		Patient characteristics, feelings, and expectations	23 Typical	6 Typical	8 Typical	9 Typical

		Genetic counselor's emotional reactions	13 Variant	4 Variant	5 Variant	4 Variant
		Tolerating uncertainty and ambiguity	6 Rare	1 Rare	4 Variant	2 Rare
		Insurance/billing/liability	4 Rare	2 Variant	1 Rare	1 Rare
		Cultural and linguistic differences	3 Rare	1 Rare	1 Rare	1 Rare
	Memorable patients		(39)			
		Experiencing and considering the profundity of life/death/humanity	10 Variant	3 Variant	4 Variant	3 Variant
		Questioning one's ability/role as a genetic counselor	10 Variant	2 Variant	5 Variant	3 Variant
		Encountering patient anger and dissatisfaction	8 Variant	2 Variant	2 Rare	4 Variant
		Helping patients solve problems	6 Rare	1 Rare	2 Rare	3 Variant
		Other	5 Rare	2 Variant	2 Rare	1 Rare
	Perceived Effects of Memorable Patients on Clinical Work		(32)			
		Self-awareness	15 Variant	4 Variant	5 Variant	6 Typical
		Specific changes in how one conducts sessions/ works with patients	11 Variant	1 Rare	5 Variant	5 Variant
		Other	6 Rare	3 Variant	1 Rare	2 Rare
Views of the Profession: Genetic Counselors' Evolving Perceptions of and Relationships						

to the field of genetic counseling						
	Views of practicing genetic counseling and being a genetic counselor		(39)			
		Adjusted expectations of genetic counseling/medical field	15 Variant	4 Variant	8 Typical	3 Variant
		Adjusted expectations of oneself and one's role as a genetic counselor	13 Variant	3 Variant	4 Variant	6 Typical
		Develop an outward focus	6 Rare	3 Variant	3 Variant	0 Rare
		Other	5 Rare	1 Rare	2 Rare	2 Rare
Being a clinician within the profession: Genetic counselors' evolving perceptions of and relationships to their professional identity (including their role and setting)						
	Current Motivations to Practice Genetic Counseling		(N=66)			
		Relationships	25 Typical	7 Typical	9 Typical	9 Typical
		Rapid, constant evolution of the field	18 Typical	3 Variant	9 Typical	6 Typical
		Intellectual/academic interest in science/genetics	15 Variant	4 Variant	4 Variant	7 Typical
		Educating others	8 Variant	2 Variant	1 Rare	5 Variant
	Turning points/Catalysts for professional growth		(N=60)			

		Job shift(s)	27 Typical	7 Typical	11 General	9 Typical
		Gradual changes	13 Variant	6 Typical	3 Variant	4 Variant
		Involvement in the genetic counseling profession beyond one's position	8 Variant	0 Rare	4 Variant	4 Variant
		External acknowledgment of growth/status	7 Variant	3 Variant	2 Rare	2 Rare
		Other	5 Rare	0 Rare	2 Rare	3 Variant
	Definitions/views of professional development		(N=55)			
		Growth in competencies	22 Typical	6 Typical	7 Typical	9 Typical
		Broadening the scope and view of one's practice	15 Variant	2 Variant	7 Typical	6 Typical
		Career advancement	11 Variant	2 Variant	5 Variant	4 Variant
		Other	7 Variant	2 Variant	1 Rare	4 Variant
	Plans/goals/concerns re: continued professional development		(N=43)			
		Self-focused professional development	28 Typical	8 Typical	9 Typical	11 General
		Other-focused professional development	15 Variant	5 Typical	3 Variant	7 Typical
	Influences of personal on professional development	5	(41)			
		Self-reflection and self-advocacy	20 Typical	6 Typical	8 Typical	6 Typical

		Effects on empathy for patients	15 Variant	3 Variant	4 Variant	8 Typical
		Other	6 Rare	2 Variant	3 Variant	1 Rare
	Career (dis)satisfaction		(N=33)			
		Consistently very satisfied	15 Variant	8 Typical	2 Rare	5 Variant
		Currently less satisfied	7 Variant	0 Rare	4 Variant	3 Variant
		Multiple vacillations throughout career	6 Variant	1 Rare	3 Variant	2 Rare
		Currently more satisfied than in past	5 Rare	1 Rare	3 Variant	1 Rare

what it means to help a patient, how to identify and measure success with patients, difficult issues in sessions with patients, and how memorable patients/sessions have affected their practice. Within this theme, there are five domains: Components of Helping, Defining and Identifying "Success" With Patients, Difficult Issues in Sessions/Patient Challenges, Memorable Patients, and Perceived Effects of Memorable Patients on Clinical Work.

Domain 1. Components of Helping (*N* = 59)

Responses in this domain largely reflect answers to the question, "What does it mean to you to help people as a genetic counselor?" Definitions and views of "helping" are included in this domain. Several participants commented on the deceptive simplicity of the question, and several commented on the fact that they were not certain that they could help all patients or that they know exactly how to define "helping." Additionally, multiple participants commented on how "helping" can vary substantially across patients, depending on individual circumstances and patient needs. Further, multiple participants described how their definition has changed throughout the course of their career, typically from being more information and agenda-driven to being more emotion-focused and patient-driven. Most responses included more than one of the following three categories: Provide education and resources, Provide emotional support, and Facilitate autonomous and informed decision-making.

Category 1. Provide education and resources (n = 23; *n* = 7 novice, 8 experienced, 8 seasoned). This category includes views of "helping" as providing education about genetic information as well as working to demystify the genetic

counseling process. It also includes the genetic counselor serving as a resource for a variety of patient needs and being a patient advocate.

- "…I think a lot of my patients will call and not understand. They think that doing genetic testing is as simple as a blood test and that's it, and so helping them really understand that no, there's a lot more behind it, there's a lot of other things to consider, so that way, they feel as though they're informed and they really know the value or lack thereof of that 'blood test'." (Novice)
- "At least in the pre-natal setting, it's allowing them an outlet, it's giving them a resource, a phone number they can call and ask questions, and they're going to get through to somebody without being put through some phone tree. For my Spanish-speaking patients, it's providing this information in Spanish for the first time in their lives that they've ever heard from a professional. 'Being a guide' seems too strong of a phrase, but more or less accompanying that person along this track and assisting, and gathering resources." (Experienced)
- "[Helping] means being an advocate within the medical system and within the community, and sometimes even within their 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..." (Seasoned)

Category 2. Provide emotional support (*n* = 21; *n* = 7 novice, 6 experienced, 8 seasoned). This category emphasizes psychosocial skills, including easing patients' anxieties, supporting all patients through their "roller coaster" of emotions, encouraging expression of feeling, and generating meaning from their difficult experiences.

- "And then for a much smaller proportion of our patients, largely the ones that have something very major going on with their baby, specifically the ones who choose to terminate, I think that's where I can be of most help, where I exercise kind of my full potential in helping there. Because those are the ones that really need somebody, that really feel like they may not be able to handle whatever the situation is on their own. I feel like I do the

most with the people with the worst outcomes, if that makes sense." (Novice)

- "To give them a sense of control over something that usually worries them and something that has been worrying them. Like for instance, my experience with cancer genetics patients is that they are aware of the family history ahead of time, that's why they come to us…And they are—they're very concerned about what it means for them and/or their relatives…And being able to dispel some of their fears as not being founded but then be able to confirm some of their other concerns and, but put it in a concrete context and help them develop a plan for how to deal with it…I kind of have a really practical approach to it, I think." (Experienced)

- "Many, many times over the years I have had people tell me, 'How can you do this? This is so depressing. Oh my god!' And after a while, it actually gets really annoying [laughs]…Just because sometimes it feels like every time you turn around somebody's telling you how crappy your job is…And it's not always *that* crappy…And what I've realized and what I reiterate to these people who ask that, that the things we deal with—having a child with a health problem, developing cancer, being predisposed to adult heart disease, all of those things stink. But those things are going to happen. And we don't have any control over that. I can't prevent somebody who has a child with a genetic disorder or a birth defect. But what I can do is maybe help them during that time of learning that diagnosis, going through that terrible grieving process, and they're in shock, they don't know where to turn and they don't know what to do or they feel like no one is explaining anything to them is that maybe I can be one of those people who can take the time with them to acknowledge their emotion, try to explain things to them in a way they can then understand what's happening. Try to alleviate the mess—you know, one of the big ones is, 'It's not your fault, Mom, you didn't do this to your baby, and this is why. This is the scientific basis for this, you had no control over this'…So I think of it as more of just helping people through this time of crisis and trying to adjust that help to them and, in as much as I can, while not overstepping, not becoming a psychologist but just keeping within the boundaries of what I know and helping to be a resource for them…both through dealing with some of the emotions and especially helping them to know, 'It's normal what you're feeling. This is okay what you're feeling, it's okay to be angry, it's okay to be sad…'" (Seasoned)

- "To me, it's to help patients find peace with their situation." (Seasoned)

Category 3. Facilitate autonomous and informed decision-making (*n* = 15; *n* = 5 novice, 5 experienced, 5 seasoned). This category is about "helping" as encouraging independence and fostering the "tools" needed for people to become their own health advocates. While Category 1 focuses on providing resources, this category emphasizes genetic counselors encouraging their patients to be informed so they can be autonomous and self-advocating.

- "Helping them make decisions about how much information they want, really. We have a pretty diverse socioeconomic population here and most of the people sort of start out with zero information… So I think then they get thrown all of these options and all of these things that they've never heard about or thought about before and so I feel like it really does help to sit them down and talk with them in an organized way about, 'Okay, this is why we're even talking to you about this and these are what your options are based on that, and these are reasons why you may or may not want to use those options,' and things like that. And then of course there's also a lot of helping couples and families through difficulties in pregnancies, things they weren't anticipating—abnormalities or whatever…" (Novice)

- "I guess I like to help patients understand any decisions that they're making**,** and making things comfortable for them. I guess my goal with my patients is just making sure that they're comfortable with their surroundings, with their care, with the decisions they're facing, and that kind of thing." (Experienced)

- "I think that it's true for any 'helping' profession, be it nurses or social workers, or whatever. I think at first you think it's doing everything you can for them…And now it's more like giving them the tools so they can do for themselves…[Laughs] So I've become less proactive about doing things *for* them, because yeah, I don't actually think that's *help*, you know. Certainly I do step in there, if someone's really having a hard time, and I think I can streamline things more for them by doing it myself, but I've become convinced over the years that the more people can do for themselves—and help them find how to do it…And give them the tools, but they need to be responsible themselves and to figure it out because ultimately that's going to help them the best over time." (Seasoned)

Changes in One's Views Over Time and Experience

Participants described how their definitions and views of helping have changed throughout their career to date. As with their definitions of what it means to help patients, many genetic counselors commented on the ambiguity and uncertainty of how one knows when s/he has been 'successful' with a patient, including how that can vary across patients. One genetic counselor commented on what success does *not* look like; that is, describing personal limitations and weaknesses and that one cannot help every patient. While a few denied that their views of helping changed over time, most described either major or minor changes to their definition over time and with increased experience. Multiple participants reported hat their definition of helping had "crystallized" and/or deepened throughout their career, in that they initially had not anticipated some of the ways they could—and would—be helpful, such as through emphasizing to patients the importance of self-advocacy, and realizing that one can help without a diagnosis, for example. Emergent themes across at least a few participants included: becoming more realistic and less idealistic about helping over time; becoming more confident and less anxious in one's ability to help over time; and focusing more on patients' emotions and less on their own clinical "agendas" over time. It was this researcher's perception that the rationales given for slight changes and substantial changes were similar, particularly in that participants described an emphasis on focusing on psychosocial interactions with patients while focusing less on conveying information.

Gauging one's "helpfulness." When asked about their tendency to compare their own ability to help others to their peers' and colleagues' ability to be helpful, a majority of participants indicated that they had done so during their career, with most doing so earlier in their career, a few doing so more recently (for a variety of reasons), and some

doing so consistently throughout their career. They described their comparison process as being partly "human nature." They noted that the comparisons tended to be about learning from other genetic counselors and gleaning insights from them. Several used the terms "amazed" or "admiring" of fellow genetic counselors' strengths and insights. While a few described themselves as "competitive," more participants described their comparisons to other genetic counselors as more about modeling than about competition. Two described their comparisons as "not judgmental but collegial" and "more reflective than comparative."

Domain 2. Defining and Identifying "Success" with Patients (*N* = 56)

Responses in this domain emerged primarily from the question, "How do you know when you've succeeded with a patient?" Multiple participants commented that sometimes one does not know; while direct patient feedback may be one indicator of "success," that indicator often is not present and thus other indicators must be used. Further, several participants commented on learning about success from their "failures" partly due to the contrast of "failures" and "successes" and partly due to learning a great deal from painful, difficult situations. Domain 1 described about what it generally means to "help" patients as a genetic counselor, whereas this domain extends the first domain by exploring how genetic counselors know when they have helped (i.e., been successful). There are five categories: Directly observating patients benefiting from genetic counseling, Direct communication of success, "Gut feeling", Additional contact, and Patient nonverbal indicators.

Category 1. Directly observing patients benefiting from genetic counseling (*n*=21; *n* = 6 novice, 9 experienced, 6 seasoned). Responses coded into this category include

seeing that patients are satisfied with their decisions and more at ease with the genetic counseling process, seeing patients follow medical recommendations and comply with treatments, and patients' expression of understanding the options and basic genetic information provided by the genetic counselor.

- "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. I feel like when I see that patient actually running with that information and using it to make decisions for themselves is when I feel as though I've been a success." (Novice)

- "Oftentimes I don't. When they repeat back to me, in a clear way, in their own words what they understand from what I've told them that is one way that I know that I've at least made the information clear. There's multiple ways of looking at that. When you identify someone with a hereditary cancer condition, and they have a colonoscopy they wouldn't have gotten otherwise and they get polyps removed, that's one way of feeling like I've succeeded." (Novice)

- "I think that I know that I've succeeded when a patient is able to verbalize an understanding of something. Like I said, I think that because one of my primary ways in which I view helping people is to educate them and to get them understanding something that they didn't understand before, so when they're able to verbalize an understanding of something, whether it's because I hear them explaining it back to me, or I hear them explaining it to somebody else, or whether it's because they say 'I'm going to have this test because of A, B, and C,' and they really grasped it, where they weren't before, then I feel like that's successful. With the psychosocial piece, I think that when you can see that their coping seems to be improving. I don't think I can necessarily always take responsibility for that, because there's a lot going on in these families' lives, there's a lot of people involved with them when they're in crisis for the kid who's got a problem, and I'm just .1% of that equation, so just because they're getting better doesn't mean it was because of me." (Experienced)

- "I think it's harder to tell for some than for others. Some come right out and tell you and, you know, success doesn't mean fixing the situation…Success to me means that the client is open to asking questions, talking to you and telling you things and [being] willing to share what they're actually thinking…I guess that's how I measure succeeding with a client…I used to…when I was younger, seek their actual verbal affirmation that I did a good job with them. Now I feel pretty comfortable just reading it in their body language and how often they ask questions and how willing they are to discuss intimate things." (Seasoned)

Category 2. Direct communication of success (*n* = 17; *n* = 5 novice, 6 experienced, 6 seasoned). Patients may explicitly state that the genetic counselor helped them. Also, direct communication of "success" may come from a colleague or supervisor.

- "…But, I think when you feel like the family really is appreciative of you spending the time with them, they generally will indicate that to me out loud, to make clear that that's what happened." (Novice)

- "If a patient straight out tell[s] me,'I can now make a decision, whereas before I was confused,' that I would say is success…If they give me some verbal indication that the information I've shared with them and the discussion we've had has impacted their decision-making or assisted their decision-making in some way…" (Experienced)

- "That's a very good question. You don't always know…I think for when they give you feedback, that's probably one of the most direct ways to know. If you see someone back and they say 'Gee, you know, how you helped was very helpful and led us to do A, B, and C, which has been very helpful.' That's always good to hear. Or someone thanks you or sends you a thank you note, that's always very touching. Again, getting good feedback is always helpful and makes you feel good, because you don't always get that…Off and on other co-workers or your boss give you positive feedback; that's always helpful…" (Seasoned)

- "I think sometimes it's very concrete that I'll—patients have sent me stuff over the years. I'll get flowers, I'll get a card, I'll get phone calls from them or after we've talked. They're like, 'Thank you so much, that was so helpful for me. You helped me to sort of think through things' or 'I feel a little bit better now, now I have a better handle on things…'" (Seasoned)

Category 3. "Gut feeling" (n = 8; *n* = 3 novice, 1 experienced, 4 seasoned). A few participants described intuitively "knowing" or discerning whether they had succeeded

with a patient without necessarily receiving concrete feedback. “Gut feeling” differs from nonverbal indicators because it focuses on intuition without explicit verbal or nonverbal evidence.

- **“**…other times, I think, you just kind of *know*. You talk to them and they just sound so much better, so much more stable than they were before. You know, when you get to the point where they’re making their decisions independently, and they’re not calling you every 20 minutes to check in…And, sometimes they never say, ‘Yes, now I, I feel better, thank you for helping me’ but you kind of get the sense that now they’re flying on their own. And it’s never a very long interaction…In prenatal, the most that I spend with somebody is usually a month, if that…But, you know, I guess you just kind of know. And sometimes I have patients where I never get the sense that we’ve achieved what we were trying to get, but, yeah, I guess most of them don’t come right out and say, ‘Boy, that was just really helpful’!” (Novice)

- “How do we measure success in genetic counseling?... I don’t know that that’s known. *[Interviewer: I guess for you, personally.]* I guess there is a gut feeling and there are cases where afterwards, even if it was a very straight-forward pre-natal case, there are times when I leave the session and have a sinking feeling in my stomach and I just don’t know if they really got it. They said they understood, or they thanked me for my time, or whatever, but I just have this feeling that maybe it wasn’t as good as another session could’ve been, or has been. Of course, there are other ones where I think I had a huge impact on that, they are better off for having come in and seen me than they would’ve been if they didn’t. But how do you measure success in genetic counseling? I don’t know…” (Experienced)

- “You know, I don’t think you ever do. But I think that there are patients that leave the room and, and, you just have a sinking feeling and [I think], ‘Oh, how could I have handled that better? What could I have done differently?’ And there are patients that leave and you really feel like they’re okay with things. And, you know, it may not be the best situation but they’re coping the best that they can…And, really, it’s just kind of a gut feeling. I don’t think there’s anything tangible usually that you can tell.” (Seasoned)

Category 4. Additional contact (n = 5; *n* = 0 novice, 2 experienced, 3 seasoned). A few participants described knowing that they were successful when patients returned with future questions or needs.

- "I think when they leave my office and say, 'I understand what you're talking about and I now feel comfortable.' They might not have made a decision, but they feel that they have a nice understanding of what's in front of them at the time. I think if they call back with questions, I feel like that's even a bigger success, because I'm involved in actually helping them make a decision after the formal intervention has happened. Yeah, they're trusting me and my judgment." (Experienced)

- "…You know, if they come back—[for example], a couple of days ago in clinic, somebody came in that we had seen, she's an adult now, and the last time I saw her she was probably 5 or 6 years old and she's now in her early twenties and has her own kids…And I wasn't assigned to see her, but she asked, she knew that I might still work here and asked if I was still here and asked to talk to me…So, somehow I feel like maybe that was long-term feedback but it was her mom who was more the client at the time long ago. And she had some vague memories of coming in and remembered me. So, that's one way of also understanding that it worked, is when they come back when they have new needs." (Seasoned)

Category 5. Patient nonverbal indicators (n = 5; *n* = 2 novice, 1 experienced, 2 seasoned). Some genetic counselors' reportedly determine success based on patients' nonverbal cues.

- "Sometimes it isn't obvious and oftentimes I don't really know if I have. There could just be this look of understanding, or a look of appreciation, or their shoulders drop because they feel that someone understands their burden. Those are good non-verbal things, because that's more common, to get more non-verbal things…" (Novice)

- **"**Oh, you can see it in their face! ... That's probably not a good answer, but I think that you know you've succeeded when your patients seem to have come to some peacefulness about either a resolution of an issue or a decision or a problem... But, you know, more than that, we all know that there's the verbal/nonverbal [cues]—I really think you can see it." (Seasoned)

"Success": Changes Over Time and With Experience

The genetic counselors were asked how their definitions of success evolved over time. Multiple participants denied that their views had changed substantially over time. Consistent with patterns in Domain 1 (re: changes in views of helping over time), many participants described relying less on their own predetermined agendas with patients, and, subsequently, defining success more relative to patients' individual needs and emergent responses in sessions. They increasingly viewed success as including more attention to psychosocial needs manifested by the patient. While participants endorsed information provision and education as important components of "success," they described an increased awareness of and attention to patient emotional needs that arise during counseling, needs that the genetic counselors might not have originally anticipated. One participant described how she has been "refining interactions with patients" to reflect this different view of success. A few indicated that their view changed in that they no longer needed to be *liked* or considered "nice" in order to be successful.

*Domain 3. Difficult Issues in Sessions/Patient Challen*ges (*N* = 49)

Data in this domain emerged largely in response to the question, "What issues do you find difficult or threatening in the genetic counseling sessions that you do?" Participants described the most troublesome and challenging issues to emerge for them in their clinical work, whether they be psychosocial, content-related, or related to the field of medicine more broadly. There are five categories: Patient characteristics, feelings, and expectations; Genetic counselors' emotional reactions; Tolerating uncertainty and ambiguity; Insurance/billing/liability; and Cultural and linguistic differences.

Category 1. Patient characteristics, feelings, and expectations (*n* = 23; *n* = 6 novice, 8 experienced, 9 seasoned). Responses in this category focus on patient variables, including their personalities, emotions, and expectations.

- "I've never been great with crying…when people cry, I feel like I don't do an awful job, but I could probably be better. When people get angry…that's difficult. I mean, upset is one thing. I think I do a pretty good job when people are frightened or nervous or sad. Angry is a little bit more difficult… [but] I don't get a lot of yelling. It's mostly just people sitting there looking at you and you know they're thinking things like, 'Why am I here? This is useless. This person doesn't have anything to share with me that I could possibly want to know. She just makes things worse'…You can look at people and know that they're thinking something along those lines…They're not thrilled with being where they are…" (Novice)

- "When I'm doing genetic counseling…I don't respond well to angry clients. I've had 2 clients who've made me cry, the entire time I've been in genetic counseling, and both of them were very, very angry loud men…I know that about myself. The second one, though, I didn't cry in the room [laughs], so I'm getting better!" (Experienced)

- "I think that having to deal with people's misperceptions of what genetic counselors do is probably a difficult area at times. Especially when I was in pre-natal, I would have couples walk in the door who came in on the big-time defense before I had even said hello to them, who would sit down and the first thing they would say to me is, 'I don't want to be here, I'm only here because my OB is making me come to this, and we don't believe in abortion.' There was actually one clinic that I worked in that was in a part of XXXcity that tends to be much more conservative and there was one day when the first three couples in a row walked in and said the exact same thing to me, and I was [thinking], 'You don't want to be here, I don't want to be here, let's just all go home.' I think that dealing with stereotypes or impressions [is difficult]. There are people out there who clearly think that genetic counselors are here to advocate for abortions, and I run into that not infrequently, so that's a frustration, and that's something that you have to do some education around. When you have to do education around that at the same time that you have to deal with whatever issue they're coming in with, it makes it more difficult when the family comes and they've already decided what your agenda is." (Experienced)

- "I find it difficult to deal with patients who, for lack of a better word, are in denial, they're not compliant…You realize that they keep saying they're going to do something or they understand something or they're going to pass information along and it doesn't happen or they don't show up for their appointments…I find it difficult because I don't know how much to challenge them, to push them on it, I don't know what skills or abilities or you know—is it putting my agenda on them?...How hard, how hard to push? Is this their way of coping? It's not ideal for my situation but is there a way to get them around or past this or is this just something that's going to take time and for some people, it might not happen…So I think that's a big challenge." (Experienced)

- "I think patient anger, when it's directed at me, is always very scary…And that hasn't changed…I always still have an initial emotional reaction that I have to manage…My breathing changes and it's almost like an autonomic [laughs] 'fight or flight reaction'…" (Seasoned)

Category 2. Genetic counselor's emotional reactions (*n*=13; *n* = 4 novice, 5 experienced, 4 seasoned). A number of genetic counselors mentioned that their own emotional responses in sessions are challenging at times.

- "And it's hard because you want to diffuse their anger but sometimes the things that you would have to say to diffuse their anger are incorrect. Things like, 'the baby is going to be fine'…You can't say that…So that, that's difficult for me because I always kind of want to make them feel better about everything." (Novice)

- "I think it's always harder to deal with emotional things than it is to deal with factual things…So there's always an enormous risk that people will focus on the factual educational things rather than actually deal with really hard core emotional issues…Another thing that has always been difficult for me personally…Is dealing with issues revolving around death and terminally ill patients and we certainly do see patients in the cancer setting who are going to die…And I don't think I was ever very good at confronting that. I think I was like a lot of other health practitioners and people who kind of dance around the issue and would rather talk about genetic testing than talk about the fact that somebody had a—you know, is terminally ill or in hospice" (Experienced)

- "It's difficult having a front row seat to people's personal tragedies…but difficult only in the sense of the potential for burnout or the potential for just feeling helpless. I would say those were the biggest challenges. Not

insurmountable, but if I reflect back and say, 'What were my tough days?'...And my tough days were when I had patients one after the other dealing with difficult life stresses, challenging decisions, losses, significant losses…Always that's a challenge. I think that does come up on the issue of boundaries and transference and countertransference…And my simple-minded way of thinking about it is that you can't let every patient break your heart…Because you will no longer be effective…But on the other hand, you're always going to be touched by your patients." (Seasoned)

- "I worry that I really am going to make this worse for somebody. That they're already having a hard time and I'm going to do or say something wrong and make it much harder for them then, [and] that they're going to get really angry with me." (Seasoned)

Category 3. Tolerating uncertainty and ambiguity (*n* = 6; *n* = 1 novice, 4 experienced, 2 seasoned). Responses in this category focus on "not knowing" or not being able to identify or provide answers or diagnoses. It also includes the lack of concrete evidence to determine whether some patients "get it."

- "The things I find the most difficult to deal with are areas of uncertainty, whether it be that variance of uncertain significance, or that mysterious gene that seems to be surely in the family, but you just don't know what it is. It's that area of uncertainty. I like to be able to provide information and when I can't, I feel like a failure, and so for me the biggest challenge is how to approach it and make that patient feel somewhat comfortable with that uncertainty, if that's possible, while still providing the information that they need." (Novice)

- "From a cancer perspective, I have a difficult time dealing with some of the colon cancer diagnoses because they are so scientifically complex, and not because I think it's hard to explain it to my patients, but it leaves me frustrated when I don't have an answer for them. We go through a long process of trying to come up with an answer and ultimately we end up with no answer. It's interesting because it's not like I didn't deal with that on a day-to-day basis in pediatrics, where we didn't come up with a diagnosis, but here what's frustrating is we have a clinical diagnosis, we're pretty sure this is it, or we have something and we're trying to rule it out, and yet we ultimately can't rule it out. It's interesting; it's a different level of ambiguity…" (Experienced)

- "I think that the most difficult thing is just really assessing if people understand the information. I think that I've been frustrated on several occasions where you have these really lengthy conversations with people and they seem to really understand the information, and then you get a question from them a while later, or you have a conversation with them a little while later, and it seems like they completely did not get what you were talking about. How do you really assess when they're in that session with you and they seem to be asking the right questions, and nodding, and so on, that it's really sinking in?" (Experienced)

- "Difficult I would say is still, I find families who are really, for whatever reason, married to the idea of having a diagnosis when we can't give one…That is still difficult. It's painful for them, it's hard for us in terms of feeling [that] we've failed in their eyes. Even though I understand there's no way we can do what they're asking for…And I feel like over time maybe, if we can maintain a relationship even though we didn't give them the answers that they were hoping for, if we can keep them linked with us or some genetics professional, eventually they might get them, but that's hard in the short term…To feel satisfied—for me to feel satisfied and for the family to feel satisfied, even though we might be successful in some measure in that we had a thorough interaction and they left understanding that we can't give a diagnosis. So, in some ways, the interaction was successful but it was not successful in what they were really hoping for wasn't met and they're not at a point where they can kind of come to terms with that. That's a long-term issue…So that is still challenging, I think, emotionally and professionally in terms of that lack of feeling satisfied, even though I think I can address the issue pretty well." (Seasoned)

Category 4. Insurance/billing/liability (*n* = 4; *n* = 2 novice, 1 experienced, 1 seasoned). Multiple genetic counselors commented on insurance and billing issues during their interviews, but the participants included in this category singled out that issue as a difficult one for them during their sessions.

- "I think the biggest issue is just having the community, and patients, and physicians understand our value…I think part of the problem is just in billing, as far as so many issues are how much we cost versus how much we bring in. I'm in a setting that is, I think, an extraordinary set-up in that our employer, the hospital, pretty much breaks even with the cost of employing us because of the way we've got our contract set up. Even with this set-up, the clinics that are paying for our services still get uneasy at

times [saying that] we cost too much, and [asking], 'What are you really bringing in, and how are you spending each second of your time that you're billing us for?' and that can be very frustrating and can detract from providing services. *[Interviewer: Do you find yourself thinking about that when you're in the sessions?]* There is some pressure to be quick and not spend too much time because I'm billing somebody for this specific amount of time and I need to justify. I can't just sit there. I can say I was counseling a patient, but I can't build rapport for half an hour, or then I'm going to be really looking for a way to explain how I'm spending my time." (Novice)

- "One that's difficult is insurance…Because there are definitely people who either don't have it—I just saw a Spanish-speaking, no insurance, no medical assistance, no social security number so they can't get medical assistance [couple]…And I have to talk to her about, I have to offer her the same things I would offer any other patient for the same indication, but with the caveat of, 'Here's how much this costs and here's all the things you have to pay out of pocket for.' And that really changes the flavor of the session. Whereas somebody who comes in with insurance, you can offer them all the options and feel hopefully pretty confident that they at least will get it covered at some level…That's one challenging aspect of insurance. The other challenging aspect is patients who desire genetic testing for one reason or another, either on themselves or on a pregnancy and their insurance is refusing to cover that. It's a struggle. It's hard for me to, you know, see patients turn down some things that they really need or really desire for financial reasons…So the medical insurance issue is really hard, difficult." (Experienced)

- "[In my current position], I work with a clinical geneticist, other physicians, other [professionals], it's a pediatric subspecialty clinic and I find their input very helpful. Obviously we have a lot of overlapping patients and we discuss cases and I get a lot of different input, and that's very helpful educationally and professionally to have that camaraderie. Now in the prenatal area, I just work with a perinatologist and am very autonomous. And basically…the genetic counselor is the genetic expert. [Laughs] I mean, the perinatologist, they basically say, 'Yep, okay'…And that, you lose the backup for bouncing ideas, and if you're not thinking of something, you're really the one that's liable…And so and I think as the profession becomes more autonomous for licensure, I think genetic counselors need to be really careful that they not overstep their bounds when they're working alone…Because I think there is a sense that anything genetic, we can [see] on our own, and that's really not the case. There are aspects that we can, and certainly if we stick to what our training is, but I think there's a tendency, just because we know what the health care guidelines are and we can impart all those and that's all the

patients need. And it's only through my work with other docs and other clinical geneticists, that you know, that really the medical management I see so much of things that I really shouldn't be doing [laughs]…I mean, I may know it, but it's a lot different actually making—who should get what and why that is just not in the guidelines, and the guidelines are just that, they're a guide…So I think that it's not really the sessions, it's just, I think we need to be really careful." (Seasoned)

Category 5. Cultural and linguistic differences (*n* = 3; *n* = 1 novice, 1 experienced, 1 seasoned). Responses in this category focus on challenges related to cross-cultural genetic counseling, including varying conceptualizations of health matters, assessing patient understanding of the material, and so forth.

- " …[I find challenging]families who are of different ethnic or cultural backgrounds…we had a family last week that was Cantonese speaking and had this very elaborate understanding of why they thought their child had the issue she had…And trying to explain to them that we wanted to do a test to look at her chromosomes was pretty—it was disconnected from them for sure…" (Novice)

- "…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." (Experienced)

- "…Recently I had a case where a husband and wife came in and the wife didn't speak much English…So her husband just took over. And that was difficult, just trying to figure out ways to include her. And I suspected that she probably understood more than she spoke but she wouldn't say a word while he was there…So that [was] difficult to make sure she's understanding. And normally we would have hired a translator if we would have known ahead of time…It wasn't clear that she was understanding, and she didn't even say much in her own language to him. So…I wasn't sure who was making the decisions." (Seasoned)

Difficult Issues: Changes Over Time and With Experience

Many genetic counselors described these issues changing over time for them, while a few maintained that the same issues continued to be challenging to them now, after gaining experience. One noted that since becoming a parent herself, her "physical and emotional responses" to certain issues have changed, though her intellectual opinions have remained consistent. Several described becoming more adept at and comfortable with the psychosocial aspects of genetic counseling over time, being able to shift focus away from information provision and onto the "human" needs of their patients *in the moment*. Further, several described feeling uncomfortable—to the point of acting "apologetic"—earlier in their career about uncertainty, whether a diagnosis was not available or whether the genetic counselor did not know the answer(s). They described now feeling more comfortable admitting when they do not know an answer and expressed a belief that patients appreciate their honesty and resourcefulness. Several genetic counselors noted that while the issues they find difficult have been ongoing challenges throughout their careers, they have found external and internal support mechanisms for dealing with these challenges. For example, one participant noted that while it continues to be difficult to give "bad news" to patients and she still cries sometimes when doing so, she feels that it is not quite as painful or overwhelming each time, as she has learned how to seek the support she feels she needs in order to "cope with it in [her] own heart and still do a good job for the family." Finally, a few participants commented on learning over time to take matters "less personally."

Domain 4. Memorable Patients (*N* = 39)

This domain includes responses to the broad prompt, "Tell me about a patient or genetic counseling session you will never forget." Although not prompted to do so, some

participants explained why they selected their response. Those who shared their selection rationale clustered around several ideas: a "good" outcome, a session that did not "go well," a recent case, a first experience, a shocking and/or emotionally powerful experience. Several also commented on the lack of closure in their memorable patient situations—wondering how the "story ended" for these patients. There are five categories: Experiencing and considering the profundity of life/death/humanity; Questioning one's ability/role as a genetic counselor; Encountering patient anger and dissatisfaction; Helping patients solve problems; and Other.

Category 1. Experiencing and considering the profundity of life/death/humanity (*n*=10; *n* = 3 novice, 4 experienced, 3 seasoned). Responses in this category dealt with existential questions and personal feelings about life, death, and being human.

- "…I saw a patient the other day, and she was in her sixties…And she was referred to us for BRCA1 and BRCA2 genetic testing…so, she was referred to me to talk about that, but it was a very recent diagnosis. She just found out she had ovarian cancer, I want to say a month ago, from the point I saw her…And ovarian cancer is very devastating. It's hard to detect and it's usually detected pretty late. This person's staging and grade suggested…probably a really poor outcome. Probably not going to make it…so one of the first questions she asked when we were in the session was, 'Am I gonna die?' [laughs]…And I was a little surprised… usually the oncologist has filtered those questions out …and addressed that kind of stuff with them before they see me…[I] have pretty limited experience with cancer patients, and I just I totally admit that. That that's probably my weakest area is that cancer realm…And, I was…a little caught off guard by that question…I think I said, 'You're in good hands,' and I tried to reassure her that it was detected and that the doctors were doing everything that they could, and I said that 'I think, you know, I'm not sure, you know, I think this is a question that you should, a talk you should have with your oncologist'…And I told her 'I'm less equipped to tell you what exactly what your prognosis is'…But I felt like, at that point in time when I didn't really tell her a straight answer, she was just, didn't want to talk to me anymore…So that was really tough. I mean, that was really early on in the session and I felt like she didn't really care, and didn't really listen to

the rest of the session, and I was kind of surpr—, I guess I was surprised by that question. It probably just shows my inexperience." (Novice)

- "Probably the one where I had to go to a patient's house…To give them XXX test results… [for a genetic disorder] which people in genetic counseling circles would agree is *definitely* in the top 3 syndromes you do not want to have…It is *not* manageable… it is awful…—the difficulty with that syndrome as opposed to many of the other cancer syndromes is that there's really nothing you can do… so it's a very difficult thing to discuss with families because that edge of hope and 'Don't worry. We can stay ahead of the duress' that you can do with so many of the syndromes, you really can't offer that… I think it was my first year…of working at XXX hospital, and the patient, I'd seen her as a student with one of my supervisors when she had just been diagnosed with a brain tumor…she was in her late twenties. Her family history wasn't *that* impressive in terms of indicating XXX genetic disorder but we thought it was a possibility and we also had testing at that time but she declined…And she then went for radiation therapy for her brain tumor. And then she popped back up 2 years later with a scalp sarcoma, that was a cancer that was caused by the radiation…So treatment for one cancer caused another cancer, and as soon as you see a radiation-induced sarcoma within 3 years of treatment, that's a huge red flag for Li-Fraumeni syndrome…So the case that this is what was going on in her family was suddenly far more compelling than it had been before, and so she came back in to see me. And I remembered her from when I'd seen her before, she remembered me, we had the conversation, and I was, you know, it was my first Li-Fraumeni patient that I'd ever counseled and so I was very uncomfortable with this idea of there's not much we can do…I managed to get that across but it made me *intensely* uncomfortable…

  She decided she wanted to think about testing for a while. Then she called me many months later, after having gone downhill quite badly because the scalp sarcoma was not treatable…and she said she wanted testing. So she came into the clinic and she had a *massive* wound on her head; she was clearly going to die…She knew it, I knew it, it was intensely uncomfortable. It was my first patient that I'd seen that was in such bad shape. And so she had her blood drawn and she kept saying, 'I'm doing this for my kids, I'm doing this for my kids.' She had two small children. And, so she had testing and then she *really* went downhill in the four weeks it took for us to get results back…To the point where she could not hold her head up straight…And she was having difficulty finding words, and the scalp sarcoma had gone into her brain and she was having problems, not not getting words out of her mouth, but in her brain finding the right words…So she had a thought and she couldn't put her finger on the words…And, I'd never met her husband before, and he basically said to us, 'You'll have to come to the house. I can't have her leave the house

to give her these results'; and they came back positive. So we found the mutation in the P53 gene…

I'd not been on the job for that long, and the oncologist that I worked with and myself and the social worker and some other person involved in her care, all met at her house, and I, I couldn't sleep for DAYS before this…Walked into her living room. She's in a wheelchair strapped upright because she can't hold her head up anymore, her face is all puffy so she barely looks like herself. She's got her cat on her lap and her fuzzy slippers. And I, I was shaking. I was so nervous….Because I didn't know how she was going to take it, I didn't know what her husband's mood was going to be. I figured he would be devastated. In the background, I'm seeing pictures of her children. I'm thinking, this is the worst situation ever…And, the oncologist looked and me and he went—I figured he was going to handle most of it, because he had patients that had died before, and this was the first time that I had been in this situation—and he looked at me and goes, 'Well, [Participant's name], why don't you start us off?'…And I was like, 'Oh my god!'...I think my voice was audibly shaking, but I managed to get through it. And I gave the husband a bit of background as he had not been at our previous sessions, and then I looked her right in the eye and gave her the results, and she started crying, then he had a cry, and then the oncologist took over for a few minutes, and then we sort of bounced back and forth between the two of us…and we left, and he put his arms around me and I think he said something like, 'That went far, far better than I thought it ever could have. I think that was incredible. Well done. You really came through.' So he gave me a ton of great reinforcement…But it was—oh—absolutely awful…And she ended up passing away about two weeks after that…And I went to her funeral, and, god, cried like a BABY. Could not control myself…

And the really sad thing—and this goes back to the question of how do you define success—her husband never returned any of our phone calls. We wrote a letter to the kids' pediatrician before she died…Explaining the test results and saying that it wasn't appropriate to test the kids, and that we'd talked to the parents about it and they agreed, but that the pediatrician must be aware of signs of possible tumors in the kids…And to just keep an eye out and have a very low threshold of acting on a symptom…Based on what we knew was in the family and I have NO IDEA what has happened to those kids. I have no idea how the husband ended up handling it…There was this awful sense of, of loss, and sort of responsibility, but then not knowing if, you know, do I define that as success? I have no idea. I have no idea if that news devastated that family or not…I still get weepy when I think about that case…" (Experienced)

- "This was many years ago now. I was once working with this lovely woman who had come to XXX state from XXX Country …And she was older, and she wanted a baby very badly. And she had an amnio and it was

Down's Syndrome…And she didn't have [many] resources, and she was new here. And her husband also didn't want a retarded [sic] child…So, she decided she was going to terminate the pregnancy. At that time we did saline abortions…So I went with her, to the OB who was going to instill the saline. She was laying on the table and I was standing beside her holding her hand when he put the needle in her stomach and injected the saline, and let me tell you…Not only did she know what was happening, and tears just started running down her face as the baby was dying, probably at that second, right?...Or could have been, right? …Maybe not but could have been. I was acutely aware of it, too, more than I think I had ever been before…And it was such a powerful moment, I mean, *unbelievable*. Unbelievable. I didn't forget that feeling for years and years, that I was witness to something like that. Just standing there and I felt it was very important I was there for her because she was alone...But the intensity with which that hit me… I didn't expect it…Because we talk about termination all the time…And all the hundreds and hundreds of patients in my career who have terminated pregnancies…I've done prenatal my whole career...It, it was so intense, to know that I was part of that. Even though I wasn't the one putting the needle in, I was part of it. I was part of the death of that fetus...And I've sat with many patients while they're going through the labor, having an induction termination…And, tried to sit with them and talk with them, and just be there for them, you know? I've done that many times in the past…But this was different…I mean, like the second the saline was being put in …It was *extremely* powerful." (Seasoned)

- "There are two and they're both similar, and they were both circumstances where the work-up and/or intervention was complex. They both happened to be prenatal cases…with recurrences of uncommon conditions where everyone was working hard to think of either a testing or monitoring strategy and I feel like I became involved in just working hard to help my patients meet their goals, which was to have a healthy, unaffected pregnancy. They were both cases where the fetus was affected and I just was overwhelmed by the tragedy. In one situation, the final outcome—delivered by c-section a baby in third trimester that we knew would not survive post-delivery…And the patient asking me to attend her section and doing that, just being there with her…

  And another, it was a little more subtle. I had a patient from another country who had gone to great lengths to come to the United States, 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…And I think of her every year, and this probably happened, oh, 25 years ago…So, I think those are my big ones [laughs]…" (Seasoned)

Category 2. Questioning one's ability/role as a genetic counselor (*n*=10; *n* = 2 novice, 5 experienced, 3 seasoned). Responses in this category addressed what it feels like to be a genetic counselor, including role and job responsibilities. Participants commented on how they experienced, reconsidered, and deeply explored their own uncertainty, doubt, fear, and discomfort. Ethical dilemmas are also included.

- "Well, the ones that I tend to remember the most are the ones where I think things did not go as well as they could have…because I don't get the kind of closure I want at the end of the day. So I guess one of those is a patient we had who had a baby with trisomy 13 when she was pregnant…And in this case, frequently they have midline defects, which means that their face, including their head, their brain in general does not split into the two halves you're familiar with…And so one of the big issues we had with this family was that we felt the baby had a probuscus, which is sort of a pre-nose…Where instead of actually having a fully formed nose, you almost have a tube coming out where the nose should be…And in those babies they frequently either have eyes that are very, very close set or basically one eye. And the reason this was such a big deal, other than it was distressing sort of thing to say to a parent …Was that this was a family where they wanted their children at the birth. They had two older boys and a girl of about 12…And I remember trying to discuss with them why it was just not a great idea to have the 12 year old in the room with them, never mind the older 2…And we did finally convince them that this was not a birth that the children should be at. But they were a very religious family. They had a great deal of religious faith. They did not even entertain the notion of ending the pregnancy…I never felt like they understood what I was trying to convey to them about the prognosis of the baby. You know, I made several follow-up calls and finally just got enough of a sense that they *really* didn't want to talk to me about this and they had all the information they wanted. That they had the support in their community that they wanted, that they really did not want me to be calling and reminding them of things that they had decided to get past…But I kind of lost touch with them until the birth, and I didn't

contact them at that point because they were really just done with me. And so, on one hand, I was frustrated that I couldn't make them understand what I thought they were missing about the severity of this condition…And I don't think that I was trying to bias them toward terminating the pregnancy. That's not how I feel at all…And it wasn't that I objected to their decision to continu[e] the pregnancy. I really just felt like they didn't understand…And, you know, if they went into this decision fully understanding what it would mean, I would have been fine with that. But they didn't, and that's what was bothering me. That they were going to be in for a *big* surprise when the baby was born, a much bigger shock than was really necessary…And, being very information-driven myself, [that] was bothering me, but I had to let it go…Because, they clearly had other agendas. And, from what I understand, they felt that the baby had a very beautiful birth…for most of my patients, if they do continue, by the time that they have gotten to the point of delivering the baby, my role in their care is largely over…so I didn't get to speak to them. And I don't know that it would have been appropriate for this family to have done that…And that's one that I will probably remember for a long time, anyway.

…And it was one where I didn't understand them the way that I wanted to and I couldn't tell if it was my failure in understanding them or if they really just were militantly opposed to understanding what I was trying to tell them…Probably a little bit of both…And they were from an outside office…so I didn't have any access to her once she was outside of our care…And there was nothing we could do for her baby." (Novice)

- "There was a case I had in XXX City. The couple was pregnant with their first baby, and their MSAFP result came back very elevated with the ultrasound showing normal, the amniocentesis was normal, the chromosomes, but the AFAFP was extremely high. I think it was like fifty and forty-five is really, really high. This was before molecular diagnoses were available for any kind of congenital nephrosis, but we counseled the patient that this appears, quite frankly, that that's what's going on here, we can't a hundred percent confirm it, but based on the fact that the AFP is going up, and how high they are and that we weren't seeing any signs of maternal tumors or anything like that, we were concerned about that. And that's likely the case—did they want to continue or not? They decided to have the pregnancy termination, and we did a fetal autopsy and the autopsy showed that there were some abnormalities in the nephrons but not the typical things you would see with congenital nephrosis, and the pathologist thought that it was likely that perhaps the baby was heterozygous for Finnish nephrosis or something of the like and not actually affected, but of course they couldn't 100% rule that out either.

  That was very, very difficult, because [I wondered if] they just terminated a healthy baby because of what we said to them. I was working

with the people and a geneticist, but I definitely lost sleep over that case and will never forget her, her husband, her name, or anything, because they came back a few months later pregnant again and they wanted to see me again for their care, so they weren't having the same doubts that I had been having, which was interesting.

This next pregnancy was a monozygotic, and a mono-chorionic, diamniotic, twin pregnancy, and they did the AFP again and it was the same scenario all over again and they decided that they weren't going to terminate this time because they just couldn't go through that again, and God gave them two babies this time for a reason, so they continued and there was some dysfunction at birth and they were following the babies. It wasn't a congenital nephrosis type of situation severity. They weren't completely normal, but the last I heard they didn't have their finger on it yet, but the babies were several months old and were doing fine and they were keeping a watch and evaluating them. Then I moved back across the country, so I don't know what happened after that. That was pretty impactful.

…That was definitely a case where I was very thankful to belong to a supervision group, because I thought I was going insane. It was really tough, and of course these people were lovely, very kind and nice, decent, normal people. They didn't have any of their own pathologies or anxieties, or anything like that. They were just nice people who wanted a family. That made it simpler because there weren't other issues to deal with beyond the obvious, but it was still tough." (Experienced)

- "Probably most of the ones I will never forget are bad…One that I will never forget for many reasons was a pediatric case I had…This was a family that came into us. The family had 4 boys. The second to oldest boy who was [around] 5 at the time had trouble walking and running up the stairs…And the physician [believed] he had [a particular type] of muscular dystrophy. In the course of working with the family, which did not actually last for very long, we had learned that Mom had a family history of [a particular type of] muscular dystrophy, had been offered carrier testing and prenatal diagnosis in all of the pregnancies and had declined…She had just decided that God would not do this to her…So, we saw this boy. He had an older brother who was 7 or 8 who was still very healthy, so we felt a little better about him, but he had two younger brothers—one who was [about] 3, and then one who was somewhere who was between 1 and 2…Who were too young to have manifested symptoms. So the mom did come in, Mom was sort of angry and belligerent. This was one of these things that she was in denial about. It did not happen to her, it would not happen to her. She was aggravated that she even had to come. During the evaluations and all of that, I think we spoke. Part of the defenses, where she acknowledged that maybe this was happening, so she decided that she wanted to have all four of her boys

tested at the same time…So we went along with that, I think in part sort of worrying that she might not be able to do this again. [We] worried about giving her diagnoses on all four of her kids…But also recognizing her level of denial, her level of anger and resistance to this thing, we worried that if we didn't do it at this time, these kids wouldn't get diagnosed until much later. And, again there's always pros and cons of doing that, and we went ahead and did it. And I remember the geneticist sort of bailed on me so I had to tell her all of the results. And her oldest son was fine…Which was good, but her three youngest sons all had XXX muscular dystrophy…And I just remember, I just went from oldest to youngest, I didn't know what else to do, and just when I was going through each kid and showing her the test result, I just felt like I kept putting nails into a coffin for her. I was just destroying her…And when I got to her youngest, you know, that's when she finally broke down and cried…I think just had such a level of anger that, you know, as much as we tried to help her and to convince her, she was one of those people that she did not want to really have any contact with us after that…And I don't know if again we made things worse, hearing the news. I didn't feel like the anger was so much directed at me and the geneticist per se, but just that, you know, the diagnoses and what had happened. I don't know if she was angry at herself…so that's one case I won't forget." (Seasoned)

Category 3. Encountering patient anger and dissatisfaction (*n*=8; *n* = 2 novice, 2 experienced, 4 seasoned). Responses in this category included experiencing intense, negative feelings of patients, whether directed at the genetic counselor, at the medical field, at the diagnosis, at the situation, etc.

- "It was a patient who had been diagnosed with breast cancer about two years prior, and she came presenting to me because they found a new area in her opposite breast they were concerned about. She was just going through the diagnosis of all of that. She came in and I took her family medical history and I was just starting to go into a little bit of education about basic cancer genetics, and I had literally talked about, 'Ten percent of all cancers are hereditary' and was getting into, 'These are your genes and these are your chromosomes,' and she burst out in tears. She said, 'You have to stop, you have to stop,' so I shut my binder and said, 'Okay, I'm happy to stop.' I just let her sit and cry for a minute and then she said, 'I just want the blood test now.' I said, 'I'm sorry I can't do that for you.' I told her 'I need to feel as though I've been able to give you enough information to make this decision.' I hadn't gotten into any discussion

about risks, about insurance, or anything at this point; I had been talking to her no more than five minutes. She said 'No, I just want the blood test.'

We spent a good five or ten minutes just letting her cry, but going through all this information and she got really upset at me at that point because I wouldn't do the genetic testing until I was able to finish counseling. I had suggested she come back at another time when she wasn't so emotional, but she didn't want to do that, so I actually ended up having to call the referring provider's nurse practitioner and allowed them to have a twenty minute conversation. That way, the nurse practitioner, who obviously knew her story better, could calm her down and say maybe now isn't the right time. After the patient left, the nurse practitioner called me back and said that right before she came in she was told that her liver enzymes were acting up and so they were worried about liver metastases. The patient hadn't told me that, so of course then I understood. At the time I just remember feeling like 'What did I do to this woman? I haven't even talked about risks; I haven't talked about anything.' I was only talking about how chromosomes segregate, which I never thought to be an emotional issue, so I think she stands out in my mind just because of the emotional torment she was feeling during the whole session." (Novice)

- "Oh, well I guess it would be the first one where I cried…I went into a room and met a mother who had a son who had a very serious genetic disease. This genetic disease was x-linked, so it went from mom to child…And when I was in the room with mom, I began to take a family history, which is very standard in genetic counseling [laughs]…Drawing the family tree. Mom had another child with another partner—an older girl…So that girl was at risk to have a child of her own with the same thing as her half-brother. So a pretty big deal. So somewhere right after I gathered information, I had to leave the room, and I don't recall why I had to leave the room, but I had to leave the room for something. And when I came back in the room, the woman's partner was in the room with her…And he was very upset and suspicious about the concept of taking a family tree…I tried to explain to him that what I was trying to do was identify other people in the family that may need more information. And Mom had been very receptive to this idea already. I had already talked to her and identified her daughter as somebody that may want more information and may benefit from more information. He didn't want any names written down, not even the patient's name on the form and was very upset that I was drawing a family tree. And became so combative during the session that I ultimately said, 'The reason I ask these questions is because I was trying to gather information for the physician…What I'm going to do is I'm going to leave this paper in this room…I'm not going to take it with me. And I'm going to let you—you're allowed to do whatever you want with it'…So giving him control of the situation. Clearly it was not worth it to me to get this agitated about this tool that I was trying to

use…When the focus was supposed to be on the child…And the child's care. And so I left the room, told the geneticist what happened, told her I had identified at least one family member we might want to just gently [identify] to the mom because her daughter was her child and her daughter was of child-bearing age…We have important information for now, but I didn't want to go back in the room…So it was a horrible feeling in that room just because I felt like I was being attacked for doing something I viewed as very benign. Obviously he didn't. He was of a different ethnicity than I was…And he brought that up…That I was not being respectful of his culture. And that was a really tough case I'll never forget.

…The reason I couldn't go back in the room is because I had to cry [laughs]. But I do tend to work a little harder when I find someone in a room who's adversarial with me, or who I perceive to be adversarial with me, a little harder earlier on in the game to understand what kind of solution they're looking for…Because once I said, 'You know what, I'm just going to leave this here. I'm going to go talk to the doctor about your son, but I'm going to leave this…clearly this is important to you, and I don't want to be disrespectful, so I'm going to leave this piece of paper here.' So that was quite some time ago…And ever since then, I know it's a trigger point for me. Especially when people start getting louder and louder and louder…And so I tend to work very hard to head that off at the pass." (Experienced)

• "…It was a prenatal case where, a—I think she was probably about 23. She was a college graduate and was, working for a year [after college]…And she was working in a bar, and she became pregnant but she didn't realize it until she was about 5 months…And, she was drinking maybe 4 or 5 drinks a night throughout much of that time. And the reason the case was challenging was because she came with her mother who was very angry about this situation and who had raised her—the parents had…slaved and sacrificed to give their children the best education and send their kids to very good schools, and they had really high expectations for graduate school and all those other things, and she just couldn't believe that all of this had gone down the drain…But this sort of came out in the session …[a] comment that the mother made, and the daughter was very upset. This was obviously…something they had gone back and forth about many times…And the daughter left the session—she stormed out and slammed the door. And so we were sort of left with the mother.

…And so we decided to just continue, and supported her and heard her story for a while…even though she wasn't "the patient," she was. And so we spent about a half an hour with her just hearing her side of things, which she felt she couldn't voice when her daughter was there. So we had a good opportunity with her and then the daughter came back and we sort of shifted gears because the mother's anger had been diffused and she felt supported…And then, in turn, we…could then sort of support the daughter

and talk about how hard it is to continue and just how much courage it was going to take, but let's talk about what supports are in place for you and how any time you stop drinking it's a good thing, and just really focused a lot on the future and the positives…And this was, it was really rewarding because it went well…in my definition of, or good genetic counseling, I thought we really succeeded. And we also brought the mother and the daughter a little bit more together…And then the mother actually called me a couple days later…and said, 'You know, I just wanted to thank you,' and so, of course, notice I choose to remember *this* one, because it's a good one [laughs]. I also have some bad ones, but I try to move on from those [laughs]" (Seasoned)

Category 4. Helping patients solve problems (*n* = 6; *n* = 1 novice, 2 experienced, 3 seasoned). While all patient scenarios involved genetic counselors' helping their patients, those included in this category focus on their own assessment that they had been helpful—able to solve a problem for a patient, correct another medical professional's mistake, and see their efforts reach fruition.

- "…I had a patient who was a pregnant young woman who was coming in because she had a brother with XXX syndrome. As it happened, the brother and their mother came as well, so I was able to meet the whole family. The brother was in his early twenties and we ended up having a long talk about what is XXX syndrome, where does it come from genetically…what are the features of it, what does it mean, and on and on. In the end, the bottom line for her was that it really wasn't a risk factor for her; she didn't have it, so she wasn't going to pass it on and it wasn't really relevant for the baby.

  Then she came back a couple of weeks later for an ultrasound, or something, and her brother came with her and he saw me in the waiting room and asked to talk to me. I brought him back and he said 'I just wanted to tell you that changed my life, I never knew what I had before, I never knew why I had this big scar across my belly. I just knew I had this thing and that I'd go for ultrasounds because I'm supposed to, and I knew what the name of it was, but I didn't know what it meant.' He said, 'I feel like it's changed my life and I feel like I can go out now and I can feel good about who I am, and I don't have to be ashamed of this scar on my belly, and I understand why my body's different.' He said, 'I like to write, so I've been writing about it in my journal, and it was really cool.' It was kind of a by-product, too. He wasn't even the one who was the patient who came and said I'm coming here to learn about XXX syndrome; he

happened to be there when I was talking to his sister, and then he actually came back to tell me about it, which is unusual, too. That was a thing I'll always remember." (Experienced)

- "There was a woman who was referred by a psychiatrist…And the reason for referral was that she was stuck in her counseling and the psychiatrist was quite sure it had something to do with a termination of a pregnancy 10 years before…And, as always, you're not always sure what the agenda is or what the reasons for them being there is…And she wasn't exactly sure, either. And so we talked about how there seemed to be something unresolved about the loss of that baby…And then I asked her to tell me about that. She also brought a whole bunch of records. She told me all about how her husband had an affair right after—how they had 15 years of infertility, then she finally got pregnant, then the baby was abnormal, and she—it happened really, really fast and she terminated the pregnancy. And how her best friend came out to help her and she caught her and her husband in bed together and…And how that marriage fell apart and how she never thought she'd have a baby again and what prompted it all is that she had fallen in love again but she wasn't willing to commit.

  And so she brought her records, and the best place I could start with was, I thought that something was concrete about what happened in that experience in therapy…not that I'm a therapist but…I agreed with the psychiatrist that something was sticking there, but he couldn't find it…So, as she brought in about 2 inches of paperwork with her…And while I was sitting there talking to her, you know how you draw pictures and you flip through and you make the pictures move?...Well as I flipped through these records—literally flipped through them, a whole picture became very apparent to me. It happened in a few seconds. And for me not to show it on my face because I needed to think about it…Was that she had a CVS and that she had terminated. And this was what I all gathered in a few seconds and wasn't sure about it and needed to read the records, but there was my, in the middle of the session my take home of what happened was that she had terminated the pregnancy after direct cell. They used to analyze CVS cells directly…And that meant a turnaround time in 48 hours. And she terminated the pregnancy…And the final result didn't find any of the trisomy…So, as I flipped through the records, that all came to light. And I knew I needed to think about it, but I still needed to lay some groundwork and see where she was coming from…So she didn't think I had enough time at all to really tell what was going on in the records…And I let her believe that. And, I asked her more about the events that happened and what she remembered, and she, some people in childhood can't remember something from the childhood and you just know the block is there…And so there were some things around her account that she couldn't remember, and I said, well we have the records here. And I asked her, 'Have you ever read your records?' And she said,

'Yeah, when I first got them.' And I asked her, 'How come you haven't looked at your records again?' 'Because I can't' [she said] And I asked her, 'Do you ever worry that a mistake happened?' Because whenever I do prenatal diagnosis, I always talk to parents about their fears about mistakes happening…Or their fantasies about mistakes happening…And immediately she said, 'No, no, no, no, no' and pulled back in her chair, and so I knew that's what it was…

So, I needed more time to completely understand the situation. And we talked a lot more about what happened with her husband and did probably a good hour, hour and a half of just sort of therapy and letting her tell her story…And I told her that I didn't have enough time to read all these records, and I didn't really like reading them while somebody stared at me…And we set up another time…And so I reviewed all the records and that was exactly the scenario. And I could tell actually that a student had done the counseling with somebody else, because the note was incredibly detailed… [Laughs] And I could tell that why she thought she should terminate on those results, and I could tell in the counseling session that they thought that was appropriate, and given the timing, it probably was. But the actual final chromosome report that came out long after she terminated recommended that based on the [inaudible word] alone that you shouldn't terminate, but that's not what she was told in the counseling…And so when she, I'm sure she saw the final results and maybe it hit her that maybe a mistake happened and that's where the block was and she just couldn't remember it, couldn't deal with it…And so then, I called the therapist, and said, 'Hey, this is what I think's going on.' And he's like, 'I don't think so,' and I said, 'Well I do.' [chuckles]…And I said, 'I'm going to be going over her results.' And I said, 'I'm not a *psychiatrist*. So, I'm going to do this, if you're willing to be available by phone sitting there and come over immediately if I need you…Because there is no one to back me up here for that'…And so the therapist agreed to not have a patient then and to be sitting by the phone doing paperwork and willing to come over at the drop of a hat, because, you know, I didn't know what would happen. And in my training, we actually had a patient go catatonic when we told him…

And so, I thought this was a big deal. And I thought about it a long time and really hard and talked to other people. Basically what we came to is my goal is not to keep anybody from being sued or to make anybody get sued…My goal is to help her find peace, like I told you from the beginning…And so even though the fetal cells showed no evidence of it, there was a high probability that the placenta was mosaic for trisomy 18…And if the placenta was mosaic for trisomy 18, we might have had a term baby, but we could have also had a premature baby with permanent handicaps…So what I decided to do was go through the case, page by page and lay it out. She already trusted me, I knew that. And I already knew that we had built a pretty intimate relationship in just that early first

talk…And we went through everything page by page and kind of let it unfold before her what happened. And then when we got to the final results, she just broke down and cried…And we talked about it and talked about how the placenta was probably abnormal but the baby may not have been. And we talked about how much regret that brought to her, and she cried and cried and we talked and talked and I heard from the psychiatrist she went on to marry [her fiancé] six months later…And then I saw her for a pregnancy soon after that." (Seasoned)

.*Category 5: Other* (*n* = 5; *n* = 2 novice, 2 experienced, 1 seasoned). Responses in this category are varied and include physical violence within a counseling session and not hearing something key that a patient said due to hearing difficulty, and several others.

- "…I had one recently where I had a couple come in for counseling because they were going to have prenatal testing…I think because she was older—advanced maternal age…And the couple was sitting here, and they have three children, and she's pregnant, and they wanted to do an amnio or CVS, I can't remember which one. And we were talking, and everything went well and then I took the family history and then at the end the patient asked me in front of her husband if she could also have paternity testing with the invasive procedure…And I thought, wow, I mean, I've had this question many times before *without* the father sitting there, you know, and they seemed like a very well-adjusted, happy family, so, that was an interesting session." (Novice)

- "Obviously, the most awful one was when I was a fairly new counselor—I had probably been in the field for three years, and I counseled two sisters at the same time with my boss. She was observing me, and the sisters were just screaming and fighting at each other the entire time. And it actually escalated into an actual physical fight. That's one I'll never forget [laughs]. There are a lot of them I won't forget, but that one will stand out. [Interviewer: *How did you manage that?]* I ended up—to be honest, I actually was more calm about it than the physician that I work with who's much older than I am. I asked them both to quiet down and I actually had to escort one of them out of the office to keep them physically separated from each other, and I dealt with them one at a time…I think I just went into crisis mode. After the whole thing happened, it was when I [thought], 'Oh my God, I can't do this.'" (Experienced)

- "One of the very first Huntington families that we gave results to—this really sticks in my mind, because even though I thought I understood

> Huntington Disease, I hadn't had that much experience with families outside of the genetic visits. And you read about this 'survival guilt,' and bad outcomes, even when people get negative results, to find out they don't have Huntington. [laughs]…And that happened, exactly, almost by the book…She was a family that we'd known, her family, it was a big family—we knew several generations and I think there were 10 kids…And, you know, lots of cousins and branches of the family. And so this particular woman was in mid-life and she had several kids. The youngest was just finishing high school. And she had always wanted to be tested but it wasn't possible before and she was contemplating going back to school once her kids were out of the house…And she felt that the issue was if she didn't have the gene, that's what she would do. She'd been really wanting to do it, was looking forward to her kids being all grown up, and now the test was available…So she came in, we saw her, you know, carefully following our newly developed protocol. She lived a distance from us. And…because she was so far, our protocol required that in addition to seeing our psychologist we needed to identify a therapist or counselor or some kind of support person in her local community…And that was a little hard to do because I didn't know that much about people like that in other communities…So, anyway, she came in for her results and she was negative. And she was very happy about that, and about 3 or 4 months after her result, I got a call from this counselor in her local community who said that she had gone into this terrible depression because she hadn't done what she'd always planned to do in terms of going back to school. It just wasn't working, and she was finding herself depressed, and kind of classic survival guilt…And I don't know why that came to my mind, but I think it really stuck with me in terms of a success in kind of flying blind, developing this protocol for families, trusting that this is what we needed to do even though a lot of the doctors I was working with were saying, 'Well, why do you need to go to all that trouble and find a local therapist?" and all those kinds of things…But it kind of reinforced that there was a reason for it…That I was glad I did it. And this woman was so grateful over the long term that I had done that." (Seasoned)

Domain 5: Perceived Effects of Memorable Patients on Clinical Work (N = 32)

In Domain 4 of Theme 1, participants described memorable patients in their practice. Domain 5 includes the influence of these impactful experiences on their later clinical work (as stated in response to a specific question about influences and in responses throughout the interview). Not every participant provided an answer to this

question, and due to time constraints, several were not asked. There are three categories: Self-awareness, Specific changes in how one conducts sessions/works with patients, and Other.

Category 1. Self-awareness (n=15; *n* = 4 novice, 5 experienced, 6 seasoned). Participants in this category described ways in which they self-reflected and learned more about themselves as professionals. Their self-awareness includes; knowledge of one's own limitations, triggers, confidence, and awareness of one's role as a genetic counselor.

- "...I think each patient…Or family that you work with that you really connect with sort of informs your interactions with other families and it's good to kind of get that reminder of yeah, these are all really interesting genetic diseases to me, but it's families dealing with something usually not so great for them…And, just kind of give you that check and kind of remind you that you need to not get so excited about the science and the cool parts [laughs], but that you need to remember that there [are families affected by the diseases] and obviously that's something that I think that most people, and definitely I, experienced even in grad school…the more families you have, I think the better it is that you make sure you keep checking in with yourself about that." (Novice)

- "…the first experience [that] helped me was the ability to say out loud without feeling so awful about it—I mean obviously it felt bad, a bad feeling to say 'there's nothing we can do'…And not feel PERSONALLY like I'm doing something wrong by saying that …In some ways to say it unapologetically made me—makes me feel like I'm doing the family a service by being completely up front with them…And I think my—maybe I'm wrong—but my sense is to say it unapologetically helps them to accept it…Not that it makes them easier to accept…you can say it in a compassionate way, but it lets them understand that, 'let's not kid ourselves here, this is what we're dealing with.'" (Experienced)

- "And I think where it impacts, I think it's difficult to accept that even if you're doing the best you can for a patient…That we have no control over their outcome…I, I, I, I guess that's the theme: that, you know, you can work really hard and still not make a difference…" (Seasoned)

- "I think it validated what I've always known, and that's that the work we do isn't always apparent at the time… the work we do, I think people remember us forever…And what we do with them is remembered forever

and we can have a positive or negative impact on that memory." (Seasoned)

Category 2. Specific changes in how one conducts sessions/works with patients (*n*=11; *n* = 1 novice, 5 experienced, 5 seasoned). Responses in this category focus on extrapolating learning from memorable patients and sessions to make specific changes in how one practices.

- "…Before this patient and before I saw a reaction like this, I guess when I saw patients being as anxious as she was, I just kind of assumed that was the natural part of seeing a genetic counselor, talking about cancer and things of that nature. Now, if I hear this coming through on the phone, I guess I try to get a better understanding of it before they even come in to see me so that way one, they can express emotions on the phone, and two, then when we're face to face, I have a better idea as to what subjects are okay or maybe a little more difficult to approach." (Novice)

- "She did impact [my work] right off the bat [in] that when I first called her with the result, I thought I knew enough to call her with the result, and she asked so many questions that I couldn't answer…That then I went backward, I went back and looked stuff up and luckily she was super-patient and seemed to understand and worked with me…But from that very first phone call I always think, no matter what the results that I'm calling out to a patient, 'Am I prepared to call out this result?'...She taught me that from the get go." (Experienced)

- "[My memorable patient] brought firsthand…to me the intensity of termination…I mean, I think it's the hardest decision couples will ever have to make in their married lives. I think it's harder than divorce [laughs], you know?...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...I think the impact is tremendous. I think, the knowledge of what's happening, what's transpired, the finality of it...It's an amazing thing to be part of…" (Seasoned)

Category 3. Other (*n* = 6; *n* = 3 novice, 1 experienced, 2 seasoned). Responses in this category varied, and some participants indicated that their experiences has been impactful but in unspecified or general ways. .

- "[My experience with a memorable patients] does apply now in thinking about working with kids and figuring out whether—when is the right time to do testing …And who should decide that? Whether it's the physician, or the family, or the patient themselves." (Novice)

- **"…**No [the patient did not impact later clinical work]. I think it did affirm the idea that sometimes you need to give individuals or families permission to consider options that they otherwise would not." (Seasoned)

- "…Yeah, I'm sure at the time, I mean all of these things happened a number of years ago…I don't know how they *can't* affect you. I think every interaction you learn from and you know, incorporate stuff. Yeah, I'm sure it does." (Seasoned)

Similarities and Differences for Theme 1 Across Genetic Counselor Experience Levels

As indicated by the approximately equal numbers of novice, experienced, and seasoned participants' comments coded into each category, there were many similarities. However, there were a few differences. Some (but definitely not all) of the younger, more novice genetic counselors had heard about and become interested in the genetic counseling profession earlier in their lives. The 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, participants from the experienced and seasoned levels expressed more willingness (than the novice participants) to acknowledge that they may not know whether they have succeeded with patients—and that they may not succeed. Novice and experienced (more so than seasoned) participants seemed to mention more about cultural differences between themselves and their patients.

Theme 2. Views of the Profession: Genetic Counselors' Evolving Perceptions of and Relationships to the Field

This theme includes data articulating participants' views about the profession as a whole. A few explicitly described a parallel process between their own professional development over time and professional development of the field of genetic counseling over time. Participants' views about the field, including its myriad and rapid changes, how genetic counseling is viewed by insurance companies and other professionals, and the perceived opportunities (or lack thereof) for professional growth, emerged throughout the interviews in response to various questions and spontaneously of participants' own volition. There is one domain.

Domain 1. Views of Practicing Genetic Counseling and Being a Genetic Counselor (*N* = 39)

Responses in this domain describe participants' own professional development in relation to the field of genetic counseling as a whole, including their perceptions of the field of genetic counseling and how they function in their jobs. While responses classified in this domain emerged throughout the interviews, a prompt for these responses was: "How have your views of doing genetic counseling and being a genetic counselor changed during the course of your career?" Thus, the data include some attention to evolution of views over time, not simply static views at the time of the interview. There are four categories: Adjusted expectations of genetic counseling/medical field, Adjusted expectations of oneself and one's role as a genetic counselor, Developed an outward focus, and Other.

Category 1. Adjusted expectations of genetic counseling/medical field (*n* = 15; *n* = 4 novice, 8 experienced, 3 seasoned). Responses in this category were both positive and negative and include: 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 (such as billing/licensure, NSGC issues, etc.); learning how to stay current on information for patients; managing the need to stay current with the rapid proliferation of genetic information and a perceived professional "glass ceiling" within the field of genetic counseling. Some seemed hopeful about the future of genetic counseling, while others expressed concern about its viability. Multiple participants commented on nondirectiveness as becoming more salient for them over time.

- "…I'm still not sure what direction I want to take as a genetic counselor after I proceed and get a doctorate. I don't think my definitions have changed. I think I have realized that there's a big difference between genetic counseling and being a genetic counselor. *[Interviewer: How so?]* Well, clinical genetic counseling is what we're all trained to do, but there are so many different things a genetic counselor does, as far as if you think of everyone that works in the industry. They are still genetic counselors, even though they're not doing genetic counseling." (Novice)

- "I still really enjoy it. Some people just have a job, and I see myself as a genetic counselor, so I really do feel an association with the profession and I care a lot about it. Like I said, I thought that I would do cancer for a few years and then be a prenatal counselor, and obviously I now think that I would be a cancer counselor forever if I could, so I think that shift has changed for me a bit. I'm a little more frustrated that in ten years we're still struggling so much to be recognized and to get better salaries and things like that, which I think that keeps me in my current job and I'm a little afraid to change, because I don't really want to rock the boat, because I'm not sure where the profession is going to go. In general, I really do think that it's a very valuable profession….I feel very supported in my workplace, although I do feel there's sort of a glass ceiling everywhere. I think it's more of just in the profession." (Experienced)

- "…I think I take the field a little less seriously than I used to…I'm in the camp that believes that genetic counseling is the practice of medicine and that it should follow the same rules as other areas of the practice of the medicine and there should be less thinking of ways that genetics is unique and more thinking of ways that genetics is comparable to other aspects of medical care…And so I'm in the camp that feels that genetic counselors need to evolve. I mean, with what your topic is, [genetic counselors] need to evolve more professionally to be, to think of themselves as an integral

part of the medical system and less as a kind of exceptional, unusual sort of [service] being provided in an unusual way." (Seasoned)

- "Well I think on the practical side, there's much more information we have to convey… and it's overwhelming. And trying to find a balance between the appropriate amount—what you have to convey, what you need to convey, what you should convey and what the reality is of how much will get absorbed is appropriate. I think that balancing act—I mean I think before there was such limited information that, that we had, it still could be overwhelming and a lot to take in, but I think it's even moreso now. People have so many more choices and decisions to make and implications that didn't exist 20+ years ago…So as the complexity of the field and the technology have increased, so have, you know, how to explain it, how to help people understand, how to incorporate, how to get through the information in the time that you have. How do you impart all that…In a very narrow window of time? So that has become so much more of a challenge than it used to be and I think it's just going to continue to do that, to be that way." (Seasoned)

Category 2. Adjusted expectations of oneself and one's role as a genetic counselor (n = 13; n = 3 novice, 4 experienced, 6 seasoned). Responses in this category illustrate the participants' changing perceptions of self and expectations, both of themselves and of what it means to them to be a genetic counselor. Some realized and accepted that they cannot help everyone; several grew to view themselves as part of a treatment team and thus accepted that they are not the only ones helping the patient. Many described this growth as occurring gradually, while a few described pivotal moments or turning points.

- "…During my training there was kind of an 'ah-ha' moment. It was a very difficult appointment with a very angry patient and my supervisor was very comfortable with me, and when my supervisor jumped in and basically put the patient in his place—in a nice way, but basically said 'You're not mad at me, you're mad at the situation, so get over it'—that was my 'ah-ha' moment of saying 'Oh, we don't have to be all sweet and nice, we can actually stand up for ourselves. We can make sure that people actually see what they're responding to as opposed to it's not me, it's the situation.' I think that was actually my own experience, and then finding I could actually do that myself that was worth it." (Novice)

- "So I think in terms of doing the job of a genetic counselor, I think that's changed for me in that I think originally I viewed a genetic counselor more as someone who was assisting part of a team but the physicians were more in charge of it…That I was doing the work and was a key player in it but that they had more of the knowledge and expertise. And I think that over time I realized that they could look to me as being the one with the knowledge and expertise…And I think there was a real shift, especially when I, now in an area where there's no geneticist, I feel like I take ownership and say, 'This is what my opinion is about how we do this'…So I think that is different for me, certainly." (Experienced)

- "…I think I used to want to help every single person…And I think that over the years I've come to realize that I can't touch everybody…And I'm finding some peace with that myself. And, you know, you have to walk that fine line of whether that actually means that you're willing to do a lesser job or not…but I don't think so. I just think it's more of a realization that not everyone is going to be ready when you're ready to help them" (Seasoned)

Category 3. Developed an outward focus (*n* = 6; *n* = 3 novice, 3 experienced, 0 seasoned). Participants in this category mentioned the importance of extending and "growing the profession;" recruiting, retaining, and training sound practitioners within the field; and educating their communities about genetic counseling. No seasoned practitioners are included in this category.

- "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." (Novice)

- "I think what has changed is that I love being in the clinic but I think I would like to get a lot more involved in education…Not just teaching genetic counseling students but the public, public health awareness, public health genetics…there was an earlier question that you had about how do you actively seek opportunities for professional development…The other

thing that I've done is I've gotten involved with our public health department to implement the newborn screening…I feel that's why I want to [get an additional degree] in public health. Because having that genetic knowledge, just being aware of the issues families face when confronted with a genetic diagnosis…That brings a great perspective into public health." (Novice)

- "I've realized that it's not all, 100% of the time, about my clinical work and seeing my patients and doing the work that relates to them, but it's also about helping other people in the profession and my own personal growth through things outside of the clinic….I think being able to just really dive into these areas of genetic counseling that are important to me like educating the incoming students so that our profession can continue to grow and develop and the people we're bringing in are well-trained and well-educated; that's really important to me…." (Experienced)

Category 4. Other (*n* = 5; *n* = 1 novice, 2 experienced, 2 seasoned). Responses varied in this category, including a few participants who reported that their views of doing genetic counseling and being a genetic counselor have changed little, if at all, over the course of their career; and one who described feeling content and consistent throughout the years of her career.

• "I don't know. I love my job. I've always loved my career, even in challenging situations. I love being a genetic counselor and I've never regretted going this pathway, or thought about going a different way, and it's hard for me to imagine not always doing pre-natal. I'm going to be one of those old bitty genetic counselors who's done pre-natal for the last twenty-five years. It just fits with me, and it's comfortable with me. In the time I've been a genetic counselor, I've also had my own family and I've been a patient. I feel like the initial attractions for the job and the career are still there, and I still feel like it's a valuable career and that we contribute hugely to the care of folks in this country and abroad. That hasn't changed." (Experienced)

- "You know, that too I don't think has changed a whole lot…But it's something good to reflect on, that I haven't really thought about before. But I, I don't [think it's changed]." (Seasoned)

Changes With Time and Experience: Views on Simplicity vs. Complexity

Connected to this domain and theme were participants' answers to the question, "Has genetic counseling become simpler or more complex for you as you've gained experience?" A very small minority responded, "simpler" or "neither" while similar numbers endorsed, "more complex" or "both." Those who endorsed "simpler" seemed to conflate "simple" with "easier" and noted that with experience, being a genetic counselor has become more familiar and therefore less anxiety-provoking. Those who endorsed "both" or "more difficult" offered a variety of explanations, including that parts of being a genetic counselor have become simpler with experience, while other parts (navigating the explosion of genetic information in recent years, continuing to empathize with patients in difficult situations, etc.) remain demanding and for some have become more complex given the uniqueness of each patient.

Similarities and Differences for Theme 2 Across Experience Levels

Genetic counselors from all three experience levels (novice, experienced, and seasoned) described various perspectives on the field of genetic counseling, including both optimistic and pessimistic uncertainty about the ways in which genetic counselors' roles and jobs will evolve in the coming years. Optimistic perspectives and pessimistic perspectives were not unique to each experience level. Further, these perspectives were not consistent with any one practice specialty, gender, practice setting, etc. Both positive and negative aspects of being a genetic counselor were raised by novice, experienced, and seasoned practitioners. Fear about the future was expressed at each level, particularly as genetic information continues to become available at rapid rates. Concerns about billing and licensure were two issues that also emerged across experience levels.

The major difference between experience levels was in participants' description of their understanding of the field of genetic counseling over time. Seasoned practitioners, and some of the more senior experienced practitioners, commented on the ways in which practicing genetic counseling now is vastly different than in the past. Examples included how technology—both medical/genetic technology and office technology (computers, internet, etc.)—has affected how genetic counselors work with patients, including the knowledge (both accurate and inaccurate) that patients now have access to outside of genetic counseling sessions. Seasoned practitioners also commented more on how they often were the only genetic counselor in their workplace for years, though all experience levels mentioned how solo practice can be impactful.

Theme 3. Being a Clinician in the Profession: Genetic Counselors' Evolving Perceptions of and Relationships to their Professional Identity (including their Role and Setting)

The third and final theme focuses on participants' roles as genetic counselors, including their career satisfaction, their professional goals, how their personal lives have influenced their professional development, for example. There are six domains and 22 categories. The six domains are: Current Motivations to Practice Genetic Counseling, Turning Points/Catalysts for Professional Growth, Definitions/Views of Professional Development, Plans/Goals/Concerns Re: Continued Professional Development, Influences of Personal on Professional Development, and Career (Dis)Satisfaction.

Domain 1. Current Motivations to Practice Genetic Counseling (N = 66)

This domain concerns genetic counselors' purposes, goals, and motivators for continuing in their profession as a genetic counselor. While not asked directly, the

question, “Why do you do what you do?” is at the crux of what this domain attempts to capture. Necessarily, participants were also asked what factors initially drew them to the field of genetic counseling. However, nearly all participants stated that they were *initially* drawn to the field of genetic counseling in order to pursue their interest in science/genetics and to pursue their motivation to “help people.” Given the consistency of those motivations, a separate domain for those data was not included, as it did not provide new illumination of the theme. Most participants reported that a combination of helping people and learning new information/being stimulated or fascinated by the science comprised their motivations to practice. Many also said that their current motivations to practice are similar to or are extensions of their original motivations to practice. These include an interest in/aptitude for science, a 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). Most reported learning about the field of genetic counseling during their undergraduate years with a smaller number learning about it during middle high school and a few “stumbling” into the field after completing an undergraduate degree. Many of the participants’ responses were coded into two or more of the following four categories: Relationships; Rapid, constant evolution of the field; Intellectual/academic interest in science/genetics; and Educating others.

Category 1. Relationships (*n* = 25; *n* = 7 novice, 9 experienced, 9 seasoned). Many participants emphasized enjoying and finding rewarding the opportunities to develop relationships with and to help patients. Several also described the importance of their relationships with colleagues and/or a supportive work environment as contributing to their desire to continue as a genetic counselor.

- "Well, I guess, first and foremost is my patients. I really, really like the interactions that I have with them. I don't think I would ever want to move to a position where I had no patient contact…I like that aspect of it a great deal…" (Novice)

- "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. I didn't intend to go into cancer when I first got into genetics, but I have since really developed an appreciation for what these families are going through and just how this information is really beneficial to them, so I really appreciate it and feel like I'm doing something good for these people." (Experienced)

- "I really like some of the relationships that I've created with some of my patients. And I also really like my present work environment. I feel like I have people I work with that I enjoy working with that let me evolve and change as I want to. And my boss…I've worked for two bosses directly—both of them have been very supportive of that. So what I'm doing now is not anything like what I was doing 10.5 years ago [laughs]…This is my only job. My job description has changed significantly, but I've always been at the same institution, same primary boss the entire time." (Experienced)

- "I continue to really enjoy…my own learning about genetics as new findings come along, as the advances come along. And working with patients, that really—that's the benefit. I guess I like people as well as science. I wouldn't want to just be in a laboratory learning the science or working with the science alone without that person-to-person contact." (Experienced)

- "I just love this profession, and of course, right now I just find [my current role] just really actually uses my skills but in different ways. And I certainly enjoy being able to mentor future generations of genetic counselors." (Seasoned)

- "…then being able to work with people at different life stages. I've been able to work with children and pregnant women, and now adults; it has brought me continuous challenges." (Seasoned)

Category 2. Rapid, constant evolution of the field (opportunities to grow, not doing the same job now as 10 years ago though in exact same position) (n = 18; n = 3

novice, 9 experienced, 6 seasoned). A number of participants described motivations based on the novelty of information and growth of the field; that is, they remain interested by how rapidly the field evolves (though at least one seasoned practitioner described feeling threatened by this rapid growth). For example, one participant commented on doing a different job now than she was doing ten years ago, despite being in the exact same location and position. This category also concerns attention to genetic counselors' work environments, including the variety of tasks and responsibilities within one's position (as well as how challenging it is), and forming relationships with (un)supportive colleagues. Expectedly, more seasoned practitioners are included in this category, given their additional years of experience in the field to witness and experience changes.

- "…I think [it's] a really great time to be in this field. It's changing a lot, so even though traditional cancer genetics like I'll be doing at XXXsite, is going to be pretty much the same thing I was doing at XXXhospital…I feel like the field of genetics as a whole is changing with the direct consumer companies getting into it and it just, it seems like it's going to be…a different field in 5 years…So I'm excited to stay in it to see sort of what business opportunities there are and how patients are better accessing our services in five or ten years…I would bet that there's going to be a lot more counselors in private practice. And when I say that I mean running their own business…By offering services outside the setting of just major academic centers and hospitals, and I would expect that a lot more genetic counselors would be working for testing companies than there are right now…plus I also just think genetics as a whole is going to become I think by necessity a bit more accessible to primary care providers. I mean they have to get up the learning curve…So I imagine that there will be a lot more opportunities in private primary care type clinics, you know, that may have 4 and 5 physicians seeing 10 patients a day, I think there will be a role for genetic counselors right in those practices." (Experienced)
- "The field keeps changing, there's so much new information that what I do now is nothing like what I did XXX years ago. I haven't actually had to change my job in XXXyears, but I do very different things…I've been

employed by the same hospital in the same department the whole time, but there was no real gene testing happening when I started. It was just cytogenetics and sickle-cell. The movement to diagnostic genetic testing has been very fascinating, and then being able to work with people at different life stages. I've been able to work with children and pregnant women, and now adults; it has brought me continuous challenges." (Seasoned)

- "…there's always something new. And so even though I've been a genetic counselor for a really long time, that part changes so much, it's almost like having a different career than genetic counseling was 10 years ago….Well there's just so much—when I was in undergraduate studying genetics, we didn't really have molecular genetics [laughs]…I mean, there's a whole, everything that we know now in terms of understanding genes on a detailed level is totally different than it was then…So that's what I mean by saying it's almost a different career. It's just the way we approach things, and you know, parts of it are the same…But the intellectual part is just so different. And always [changing]…And because I have the luxury of working at a big medical center but in a lot of different types of clinics, you know, I'm seeing new things all the time. And I think that is sustaining in a sense." (Seasoned)

Category 3. Intellectual/academic interest in science/genetics (*n* = 15; *n* = 4 novice, 4 experienced, 7 seasoned). Participants in this category described being fascinated by genetics and intellectually stimulated by the challenges to learn and convey complex information. Several commented on the tension they experience between their intellectual fascination with science and the human costs and realities of genetic disorders that they encounter in their patients on a daily basis.

- "I also like the surprise that goes along with prenatal, where, you know, it could be anyone sitting out in your waiting room that turns out to have something wrong with their baby with something really interesting—unfortunate for the family, generally, but very interesting. So there's always that potential for something unexpected to come along. Clearly I don't like to see my patients suffer, but at the same time intellectually it's very interesting when those people pop up." (Novice)

- "… so I like that there is always that intellectual curiosity that I can keep feeding in this profession." (Experienced)

- "Oh, I just think it's a, it's a very interesting field. There's so many new developments that happen. It's something that I really like. I find genetics really fascinating, and biology and medicine and learning new things all the time…" (Seasoned)

Category 4. Educating others (*n* = 8; *n* = 2 novice, 1 experienced, 5 seasoned). A few participants commented that providing education is personally important to them. Included are educating students and supervisees; and educating professionals in related medical professions both about content related to genetic counseling and the importance of genetic counseling (working to validate their field); and educating the public about what genetic counseling offers.

- "I think the other thing that I've grown into is educating other providers in the community about genetics and where we're going, where we've been, and where we are…I've done a number of lectures or panels which vary. Sometimes it's just what genetic counseling is, how you get here, and what we do. More often, it's a targeted audience, and so it'll be about a specific question. Always tied into that is what genetic providers are and what we do, and how each of us is different, but we try to educate the community and also the providers and the medical students and residents about what we know now, what we have to offer, what questions we still have to answer specific to whatever their particular area of interest is…" (Novice)

- "Basically about 7 years ago when I took the XXX position, I realized that I was having a beneficial impact to individual families, but that was a tiny part of the health care system, and that maybe by getting involved in public health, I could actually impact the health care *system* to make sure that genetics was used appropriately and that the needs of the patients and families were considered." (Seasoned)

- "…And I certainly enjoy being able to mentor future generations of genetic counselors." (Seasoned)

Domain 2. Turning Points/Catalysts for Professional Growth (N = 60)

At the crux of this study is the question of how genetic counselors develop professionally over time. This domain concerns genetic counselors' perceptions of key changes or pivotal points in their development as professionals during the course of their career to date. Participants largely responded to the prompt, "Describe the stages in your professional development, or have there been any turning points? This question, and indeed this domain, explore the nebulous question of *how* genetic counselors develop professionally, and what their processes have entailed. Have they developed in a linear fashion? Have there been "defining moments," more gradual changes, or some other process? Responses included both major events that participants viewed as instrumental in their growth and more gradual changes that they noticed retrospectively. Overall, growth was described as gradual, punctuated by occasional key moments. Over time and with experience (and consistent with data in other domains), nearly all participants described gaining confidence (in their role, in their counseling skills, with patients, etc.). Several also described themselves as becoming more efficient and resourceful over time, particularly compared to their time as students. Many described "learning beyond one's training"—several commented that portions of their growth were opposed to, or "just outside of," what they learned in their genetic counseling training program. There are five categories: Job shift(s); Gradual changes; Involvement in the genetic counseling profession beyond one's position; External acknowledgment of growth/status; and Other.

Category 1. Job shift(s) (n = 27; n = 7 novice, 11 experienced, 9 seasoned). Many participants described various types of job shift(s), including working with a different number of genetic counseling colleagues, taking on new responsibilities, purposeful decisions to develop a genetic counseling specialization, etc. These job shift(s) were due

to both personal life factors (e.g., moving due to family circumstances) and/or professional life factors (feeling frustrated with one's job, wanting a specialty, etc.).

- "I have, in my short time as a genetic counselor, done a number of different jobs…So I think probably each of those different job changes was a turning point of 'Where do I see myself in this next position and how can I grow more not only as a counselor but sort of grow the profession in the jobs that I've taken?'... My first job, it was a nontraditional genetic counseling role…And it was really missing more of the traditional counseling. I guess it was also an opportunity to be the first counselor at a hospital, so it was really exciting to think about starting a program and being able to build it from the ground up myself…So that was really cool…And then moving from that job to this job was very different, because I went from being the only counselor and kind of being my own boss to being one of, there's 5 other counselors I work with…So that was a huge transition—a good one, I mean, it's a different experience working with other people and it has its pros and cons, and sometimes with a democracy it takes a little longer to get things done…But I think I appreciate working with a team and learning from the other counselors I work with, many of whom have many more years of experience than I do." (Novice)

- "…When I went back to work, I went part-time at that time, so that was one shift. Then, with the birth of my second child…I actually lost my job because of having gone on maternity leave. [That was] not cool, and it definitely presented a professional crisis at that point, but I was actually able to get another part-time job working for the competition across town…I worked there for two years and hated it. I still feel like those are two years of my life I'll never get back…I was miserable every day that I went to work. Eventually, after two years, I was able to get back the job I had before…and I was happier and continued to work part-time.

  The other, probably biggest, shift is last May, a little under a year ago, when the pre-natal diagnosis center, which was part of XXXHospital, the high-risk obstetricians that were part of that process decided that they were not going to partner with XXXHospital anymore, but instead were going to partner with XXXcompany, which is a big, national, for-profit genetic laboratory. They decided to shift how they were doing things, and so I decided not to shift with them. I left pre-natal counseling and was fortunate that XXXhospital kept me, and just shifted around what I was doing so that now instead of doing pre-natal, I'm doing more pediatric stuff and I'm contracting with the XXXRegional Center. I'm doing an entirely different job than what I was doing before. That was major. It was very rocky at first. Actually, once I made that adjustment I was okay, but knowing I was going to lose the pre-natal job, knowing that I was leaving

a job that I really liked and I had done for a long time, and going towards something that was unknown was very gut-wrenching for me. There was a lot of despair, but I ended up coming here and now I'm fine with it. I have made peace with it. It is a very different kind of job and it is not an exciting job, but it is probably for where I am personally in my life good for my family, because it's very flexible and it's very low-stress, and it's very low-key, which the other job was not flexible, or low-stress, or low-key. Although it's not as exciting and in a lot of ways uninteresting, it is personally better for my family." (Experienced)

• "It's interesting. I do feel more confident in certain ways, definitely. I think experience is an incredible teacher. And when you've been doing this for so many years, I think you have a gut feeling of what the right way is to approach a lot of things...I know how to be thorough…I feel I am a very thorough practitioner and that's very important to me. I always set my own standard of excellence and try to meet that…That hasn't changed. What has changed working out here is I feel a little more out of the loop…and the years that it's been since I've been in school, I feel like I don't understand some of the new stuff as much as the new counselors do…I feel like having been so long out of school, I just don't have as good a grasp on some of it as I used to have, so that worries me a little bit. Like I almost feel like, 'Am I falling behind? Am I gonna miss something? Am I not offering something that somebody else might because they know more than me now about all these new technologies?'…I don't think it's really happening, but it's a FEAR…Because I do have a geneticist—it's not like there's no geneticists here…" (Seasoned)

- "…Obviously when you first start, you just want to try to absorb everything you can from everyone you possibly can…I [have] basically worked with the exact same hospital my entire career…So I started off as the first genetic counselor here and…then about 4 years into my work here, the pediatrics developed, had a position open there and I switched over…as part of that, not only did I see patients, I worked with the health department…they had asked people at the various hospitals to go out and do outreach to the hospitals that had nurseries to educate them more about what this was all about. So I participated in that…writing the contracts to get those positions and having to do all that busy work—reports and things like that [laughs]…So that was another phase…

  That didn't last all that long, that component—maybe 5, 6 years…then I started becoming more involved with more professional development. I've still seen patients all the way along, but I started getting more involved with NSGC and state groups and…working with licensure…So that's been a big professional development for me, so working on bills [laughs] because you know, no one ever teaches you about that…I'm a very task-oriented person. You give me a task and I'll

[laughs], I take it and run…So, yeah, I have enjoyed that. I mean, it's been an incredible learning experience. I'm still learning and it's brought me in contact with a lot of people and professionals that I would never have had contact with before…" (Seasoned)

- "Of course when you take your first job, it's by availability. You're just glad to get your first job and so forth, so…That was the situation with my first job. And I was in a very good situation, a very positive situation and remained there for 3 years, learned a lot. At the end of that time, I moved because my husband was starting his graduate training and that necessitated a major move for us…Got a position, I think during the first two or three years it was prenatal, and then I moved over to a pediatric slot when one became available…so I think that was about 19 years…[I] just stayed there until I had the opportunity to become involved in planning a new training program …So from my perspective, there were so many things that contributed to my path, but they all fall under in my mind, a big category of seizing opportunities when they were staring me in the face…So, for example, when early in my career I, chose to become actively involved in our professional organization…but the other thing was just being aware of other unmet needs, or having people ask for volunteers to meet unmet needs and then being able to do them…

  …But I truly believe that when I was ready to make what I consider my big professional move, when I went from being [in one sort of job to another type], I recognize that I had the skills I needed, and I had gotten all those skills just along the way…So, I had gotten some strong research skills, I had gotten some, you know, project management skills, I had gotten teaching skills, because again, at my institution, the counselors were asked to become involved in teaching the medical students and I was always happy to do that, so I got the teaching skills…I had certainly gotten some leadership skills through some volunteer activities, so while I never kind of sat down and said, 'Here's my 5 year plan,' as it turned out I was just sort of building my skills and adding new skills along the way. And I would say most of the times I just, like I said, taking opportunities when they were staring me in the face." (Seasoned)

Category 2. Gradual changes (*n* = 13; *n* = 6 novice, 3 experienced, 4 seasoned). While participants in other categories may have experienced gradual changes as well, participants in this category explicitly indicated that gradual changes characterized their professional development throughout their career. An emergent theme was that with increased experience and confidence, they felt "freed up" to focus on patients' emotional

and psychosocial needs rather than their own agenda. While many professional changes were in a positive direction, some were gradual changes toward burnout.

- "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 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." (Novice)

- "…I think there are just these gradual periods of time where a particular case, or a particular moment in time, makes me realize something that I've been doing all along in my counseling session—a phrase I've been using to describe a certain topic, or what-have-you—maybe isn't the most effective way, and so just tweaking those little things, which seem to have a big impact. Every now and then there will sort of be an 'ah-ha moment'—a burst rather than a steady climb…I can't point to a specific instance, but I think it's just a general trend for me, and I think, talking to friends and colleagues [for them], also. At the beginning of my career, I know I felt like I relied a lot more on the facts and the science...we need to get beyond that…we can go into, 'How does this make you feel, and what do you think about these results, and have you ever known somebody who had to have surgery as a child?' It's just moving beyond the nitty-gritty details, because they don't matter that much; it's getting more to the big picture." (Experienced)

- "…I think it was a gradual shift towards the burnout and then kind of at one point I was like 'Wow!' [laughs] Maybe I really need to do something.' But it took me a little while to get there and I was there for a little while, and then, slowly over time, I [realized that] I'm not feeling as crummy as I was. This isn't so bad as it was. And maybe this is really something that I was sort of meant to do or is actually a better fit for me than I thought." (Seasoned)

Category 3. Involvement in the genetic counseling profession beyond one's position (n = 8; n = 0 novice, 4 experienced, 4 seasoned). Responses in this category largely include descriptions of involvement in national professional organizations. More individuals than those who responded in this category were involved in national

organizations or efforts, but some participants singled out their involvement as being impactful and as defining their professional development experiences. Others in this category found—or sought out—opportunities to advance the profession as a whole in ways they had not anticipated when embarking upon their careers.

- "Then professionally, turning points have been in wanting to achieve different professional goals in development, so one was my national involvement. I [held a leadership role] in our national professional organization, and so being exposed to things at that level has led to the change in direction of some of the stuff that I do professionally. I moved out of my job to this current position because I wanted to have an opportunity to publish and to do research, and so I was actively looking to make that change in my career, to broaden it…I think what [my leadership position has] done is when I'm looking at…where am I going and what I might do, it's changed the direction I may go in. For example…I have a vision for how genetic counselors should be trained, and so I'm now going down the avenue of looking at starting a training program and what that might look like..." (Experienced)

- "When I first got out of school, I went right into work and I worked with one of the genetic counselors who had been in the field quite a bit longer than I had, and she was very involved in the NSGC and the profession itself and development…she kind of laid the foundation that sparked my interest into working more outside of just the nine to five job, so doing talks and writing, and participating more in the NSGC and the profession that way. I think that was probably the impetus for my kind of getting more involved in the profession, rather than just treating it as a job…[participation in various activities] got me more involved in the organization itself and my interest in the profession. Then from that…I've kind of been pulled into other projects for the profession [including] billing and reimbursement and licensure." (Experienced)

- "…When I first graduated I went to work at [a leading] research genetics institution…And I did that because I thought it was very important to get a lot more exposure because you only get a limited exposure in training, so that was really another 2 years of education...But it also gave me an opportunity to meet a lot of emerging geneticists…And then the opportunity came along to take a position where there had never been a genetic counselor…I like building programs, and I like taking things and molding them into something I'm really happy with…So there was an opportunity…it was nice to get closer to home…But it was also the opportunity to really go in and create a program and be in charge of

things… I was there for a little over 9 years…And [the administration changed]…From one that I really liked to one I didn't care for, didn't think was very ethical…

So it kind of became a decision that, 'Okay, it's time to look for something different because these people are asking me to do things that I don't feel are appropriate or to take care of people in ways that I don't feel are appropriate.' I always tell people, 'Genetic counselors don't make enough money to do things that make it hard to sleep' [chuckles]…So, I looked around and went to work for a private company for a little while and then they had a business change. And through all this realized that 'Okay, maybe it's time to take my counseling skills, my leadership skills, and do something on a national basis'…So there was an opportunity to take a fellowship at XXXpublic health center and the idea was that that would be 2 years, and…Then I got very involved in looking at rare disease testing, and we had many tests in the US that didn't move from research to clinical and got involved in a lot of work around that, then met the folks at XXXacademic medical center, and really moved to the academic university because it allowed me to be involved in again multiple projects, and really kind of decide what's important to me at that particular time…So I would say [these] kind of things are, snapshots—getting an intensive additional training, then looking at the big picture instead of the patient picture…Then trying to be in a position where I can be involved in multiple programs." (Seasoned)

Category 4. External acknowledgment of growth/status (*n*=7; *n* = 3 novice, 2 experienced, 2 seasoned). Participants in this category described external validation of their status by others (including supervisors), and/or "official" recognition (such as passing boards, gaining faculty status) as being important parts of their professional development process. One participant commented that her professional development is divided into "before boards and after boards."

- "I recently did pass my boards, and so I feel like in some ways that was a big impact for me and a big turning point that made me feel more confident in what I was doing…I think I just felt more confident and for me it was a justification that 'Yes, in fact, I can do this'…I think now I'm just a lot more comfortable." (Novice)

- "I started work before I officially had my diploma, so first there was concluding the schooling aspect of things. Then after a while, it was

getting comfortable being a genetic counselor that wasn't being supervised anymore. The big thing was transitioning from board eligible to board certified…My career and schooling have always been goal-driven, so when I graduated from my master's degree, my next goal was getting certified. Now that I've achieved that, I'm kind of looking to see what my next goal is." (Novice)

- "Another big shift was convincing our department [to create a department of genetics and to provide faculty appointments to genetic counselors], after I was here for probably 10 or 15 years. We didn't have a department of genetics before that, it was a division within another department…And then they did develop a department of molecular and medical genetics and I felt that it would be important, especially because I started doing some teaching, that genetic counselors have a faculty appointment. And it took me four or five years, but we did get that for myself and then obviously for the entire genetic counseling staff." (Seasoned)

Category 5. Other (n = 5; *n* = 0 novice, 2 experienced, 3 seasoned). Participants in this category variously described turning points and stages of development. Examples include medical advances/genetic discoveries, navigating work with difficult colleagues/supervisors, etc.

- "And then I think the next step was when the Huntington's gene was discovered…We had been seeing a lot of people with Huntington's Disease in our general clinic for many years, but that became an opportunity to start a predictive testing program here…I decided to take the bull by the horns [laughs]…And wrote a proposal and worked with our ethics committee here and found a neurologist who was interested, and that was another big turning point in terms of a very satisfying kind of professional move. And it, it led me to be involved with families and other professionals in a very different way…and to be in charge of a program. And as you may hear from other genetic counselors who've been in the profession for a really long time, especially in mostly pediatric genetics, it's hard to feel in charge of things [laughs]…So that was a big thing for me…to decide that this was important and I was going to make it happen was very gratifying…" (Seasoned)

Domain 3. Definitions/Views of Professional Development (*N* = 56)

This domain contains participants' articulations of their views of what "professional development" means, with some attention to how it occurs—primarily for them personally, but also with inclusion of how professional development occurs generally in the field. A majority of responses were dually or multiply coded, reflecting the complexity of the concept of "professional development." There are four categories: Growth in competencies; Broadening the scope and view of one's practice; Career Advancement; and Other.

Category 1. Growth in competencies (n = 22; *n* = 6 novice, 7 experienced, 9 seasoned). Many participants described professional development as relating to one's skills, particularly one's clinical skills with patients. They described a trajectory of becoming more competent and more confident in one's abilities to work with a wider variety of genetic conditions, a wider variety of patient presenting styles, and to deal with unexpected issues.

- "…how to improve on the skills that I guess we started to build as a genetic counseling student…And develop those more going forward, and whether that's through, strictly through conferences, or more formal educational experiences, or just peer learning…I guess that's how I see it…" (Novice)

- **"**To me it's just the continuous learning process that we're all going to go through, as the field develops and as we develop. Genetics is a field that is intimidating and we're always going to know something more. I think that's what excites me about it, as well, is just always having to stay on top of things and really learning about that information and how that really is going to impact how we treat patients and how we manage them, so for me I guess that's it, that continuous learning process." (Novice)

- "…But at the same time I do feel like I've developed as a professional in terms of the way I talk with patients, and just that learning curve over the years of what works and what doesn't work…And all of those things which is also professional development." (Seasoned)

Category 2. Broadening the scope and view of one's practice (n = 15; *n* = 2 novice, 7 experienced, 6 seasoned). In this category, participants described professional development as learning about more areas of genetic counseling they did not realize existed, extending and applying their views of what genetic counseling is, what their roles are, and so forth.

- "…just growing, and that's in many different ways, but outside of just book learning. It's moving outward. I don't really know how to describe it, but just moving outward from what we started with, so adding on other responsibilities, adding on a new patient population, getting more involved with support groups, moving into different arenas within counseling, or outside of it, but that might be helpful in those areas." (Novice)

- "For me, it's very broad. I think of it as an interconnected web. There's the professional development that you gain just by networking with colleagues and that kind of professional development, to me, is support, expanding how you think, or changing how you may counsel based on those interactions, so changing your actual practice." (Experienced)

- "Oh, I think it's a very broad term. I think it has to do with how you see your career and your [activities], and how you grow with that, your interests, networking with other people, developing other connections with other people. Kind of just broadening your scope of your practice, I mean, so it's not just patients…[Professional development] also is looking—you know, helping, you know giving something back, kind of giving something back to the newer counselors. Being involved in their education, and then also the big broader issues within the profession." (Seasoned)

Category 3. Career advancement (n = 11; *n* = 2 novice, 5 experienced, 4 seasoned). In this category, participants commented on professional development as either fully or partially about career development and career advancement—moving up the "career ladder." Multiple participants reported feeling stuck and/or limited by the lack of opportunities in genetic counseling. This category also includes attention to external

components of one's position and profession (e.g. salary, title), more so than internal processes of professional development (improving skills, more reflection, etc.).

- "It makes me think of how your job develops…You know, how it grows and changes, so for example, with my current job, there's not a lot of room for growth and change in what I'm doing at this point…so I think of it as what you do with your career, both in terms of what you're doing on a day-to-day basis and whether or not you become involved in other kinds of organizations related to your career, like if you became involved in NSGC…Or with some of the parent support groups, that kind of thing" (Novice)

- "In genetic counseling it doesn't mean a ton [laughs] because I don't really see us having that much ability to do that in our profession…But you know, I think theoretically it would mean …how your career and your responsibilities, and the way you perceive that career and probably the interactions with the bigger genetics community develop over time, I guess." (Novice)

- "Professional development…I would say sort of a couple of things—advancement of career in terms of practical steps—professional development as sort of increasing like salary and increasing my—moving up the level, or moving up the ladder in terms of title…" (Experienced)

- "…There's also professional development in terms of being a senior genetic counselor as opposed to a new genetic counselor within the context of the hierarchy of your place of employment…That's a whole different kind of professional development, although it still is a form of professional development..." (Seasoned)

Category 4. Other (n = 7; n = 2 novice, 1 experienced, 4 seasoned). A few participants variously described components of professional development, such as creating opportunities for oneself to stay satisfied in the field/position; openness to role flexibility and unexpected opportunities ; learning one's own strengths and limitations, and more. For example:

- "Right now it means more of…in a medical setting, getting people to value my opinion as a genetic counselor…And I don't usually—see, a lot

of people don't know that I have a medical degree because I just say I'm a genetic counselor and that's it…But I always notice a change when I say, well I also—I mean, if I'm feeling some resistance to getting them to involve me in the patient care or something, then I say, 'Hey.' You know, I sort of let it slip by that I also have a medical degree and then there's this change in attitude…And I'm just like, 'That's just not fair. That's not fair. I'm a genetic counselor, I've got the training, you need to [respect me]....'" (Novice)

- "…And being able to work with many more expert physicians than I've ever been exposed to before is also something I would consider to be professional development." (Experienced)

- "I think professional development is learning from your successes and learning from your failures or your not-so-good successes…It also has to do with 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] do those parts. It's also learning how to turn projects over…those kinds of things." (Seasoned)

- "Part of my development as well was when again, when I was in XXXtown, that's the place I worked the longest, I was there for over ten years…And at that time too, I had to learn how to do things that were more related to just running the office because I was one of the few full time people there…So I had to learn how to do the budget. I had to learn how to do the state grant. I had to learn many more administrative types of things…And I think that in some ways is good just because now with the job that I'm in, when I'm talking to like our manager about those kinds of things I have a better understanding of her, of where she's coming from…You know, sort of a better picture of the hospital as a whole, that you know, we're a small department within the hospital, that they have many other things they need to worry about and take into account. We're one piece of that…" (Seasoned)

Definitions and Views of "Professional Development":Changes Over Time and With Experience

Genetic counselors were also asked how their definitions/views of professional development changed over time. A number described no or minimal changes in their definition, while some noted that their definition became more nuanced, complex, and

unique to their own growth and needs. A few commented that they either did not know what professional development meant upon graduation or that they had originally maintained a narrow definition such as professional development being equivalent to maintaining one's CEUs. A few commented on their growing disillusionment about the professional development opportunities available to genetic counselors. A few participants specifically commented on their views of professional development broadening to activities that extend beyond clinical work. A few genetic counselors talked about initially believing that professional development was solely about patient care, then gradually gaining confidence in that area and realizing that there are other areas of interest for them as genetic counselors, such as taking on administrative roles or responsibilities in professional organizations.

Nearly half of the participants described their professional development thus far as resulting from both intentional and unintentional activities and influences. Multiple participants noted that their professional development has been comprised of primarily conscious processes, and several stated that unintentional, or less conscious processes, have primarily affected their professional development (i.e. they realize retrospectively how and from what they have grown). Some of the deliberate or conscious influences on their professional development included seeking out networking opportunities, attending peer group supervision, staying current on genetic counseling literature, attending professional meetings, and consciously modeling one's professional activities after those of a senior mentor/colleague. Examples of less conscious professional development processes that genetic counselors realized retrospectively, are unexpected interactions (such as a different boss, patient, or case beyond the scope of the literature), self-

reflection about difficult cases or interactions, learning from colleagues and learning from psychosocial interactions and dynamics.

Domain 4. Plans/Goals/Concerns Re: Continued Professional Development (*N* = 43)

This domain focuses on genetic counselors' hopes and plans for their future professional development, including for some, fears or concerns they have about reaching their goals or developing according to their intent. Responses varied widely, due to practice setting, years of experience, and/or life circumstances. Many participants had dually coded responses. Fears about reaching one's goals included: funding problems, life events, lack of institutional support, fear of failure, uncertainty about giving up current situation with fear of the unknown, burnout, knowing when to retire, how to balance one's life roles, fear that the program one spent her career developing will not sustain itself once she is gone, and worry that the field of genetic counseling will become obsolete. There are two categories: Self-focused professional development and Other-focused professional development.

Category 1. Self-focused professional development (*n* = 28; *n* = 8 novice, 9 experienced, 11 seasoned). Responses in this category ran the gamut and were unique to each individual but all represented efforts to improve one's self professionally They include: taking on or letting go of roles/responsibilities within one's career, maintaining one's satisfaction in and energy for the field by avoiding burnout, maintaining openness to learning, improving specific skills and seeking additional training, One participant commented that she wished she "had it in her" to educate the field but has kids at home who are now priorities.

- "Well, right now I'm very comfortable and happy seeing patients. I guess for the next couple of years I hope that I remain happy in doing what I'm doing… I'm guessing that you know, eventually I'm going to start to get a little burned out of seeing all these patients. That seems to be the pattern [laughs]… But I'm hoping that it doesn't happen for me for a long time, and then when it does, I'm hoping that I'll be able to find other things I can do that can help with that issue…" (Novice)

- "Well over the next few years, I would—I have to say this quietly because I'm at work—But my goal has always been to get into cancer genetic counseling. That's sort of my particular area of interest…and…I've enjoyed prenatal but I'd like to move into that area [of cancer genetics] because I think that's an area where I would be happiest long-term…So that's the plan. I don't know where I'm going to go from here in the next few years…" (Novice)

- "…I think I would like to take on more responsibilities in the professional organizations like NSGC and ABGC…does that count as professional development?...You know, continue that involvement and take on more responsibility…And I think my fears are that there['s…] going to be too much and I'm not going to be able to know everything [laughs]… I guess that's a fear everybody has, I don't know. Or it's not really a fear but I guess I worry that changes that life may bring, I'm not going to be able to focus as much on my job and I don't know [if] it's just a fear of change or adjustment." (Experienced)

- "…A main goal, and I don't know if it's soon or if it's later, would be to develop some research expertise and to get more involved in that side of things. My fear is that it would require a PhD and then I would lose what I already have…Which is, it's at this point a very comfortable job with a lot of flexibility. I have young children so I'm always running off to appointments and hockey games, and I can do that because no one's watching over me…And I would give up that comfort and, you know, for the unknown. And also it's a very social position. You know, I'm in the hospital and I'm meeting lots of people…whereas when you do a dissertation you're *stuck* in your room by yourself…For weeks and months…I'm scared of that life, even though it's temporary…I'm scared of that." (Seasoned)

- "I'm probably trying to figure out how to continue to expand our program, and how to continue to grow administratively. A little longer term is how long do I keep doing this? It's looking at what's the end point to it, and I don't know when that is." (Seasoned)

Category 2. Other-focused professional development (*n* = 15; *n* = 5 novice, 3 experienced, 7 seasoned). Some participants described becoming more focused on the education of others—whether genetic counseling/medical students, other professionals and/or the public about the importance of genetic counseling. Other participants described specific clinical/patient-related goals and/or a desire to help make the field of genetic counseling more relevant in the current information explosion.

- "I would love to be more involved in the profession as a whole, so more involved on committees; more involved in education, and just be out there helping the next generation of genetic counselors more. Also helping the people who are already in this field, to try to make sure that they're comfortable where they are, and if they aren't how can they pursue other avenues to be satisfied. I'd like to take a bigger approach to it than just getting through the grind of the day." (Novice)

- "One of my main goals is I would really like to be able to take on students. By having my own genetic counseling students, I think I'll be in more of a supervisory role. Now that I have my boards, I have talked with my own program director…about the possibility of making this a rotation site. While the patient care is very important to me, there's something about student interaction, which I know as a student working with a supervisor, I really enjoyed, and so I would really like to see that as something that my job does eventually evolve into." (Novice)

- "I guess my main goal is to develop…genetic counseling, guidelines for the other areas of the hematology clinic that aren't, that don't currently have genetic counseling guidelines for like thrombosis, that's the main area…And I guess my concern is that, that there's going to be some resistance from just the other [professionals I work with]." (Experienced)

- "[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 tighter and options and supports that are considered ancillary…just also aren't given the support that could help the program or initiatives to grow" (Seasoned)

- "Well, one goal would be to get better at doing teaching. And to make inroads in terms of-- having a genetics department that's heavily basic science, I think there's just not enough clinical genetics in the curriculum for the medical students and the PhD students here… I've not had the time always to fight that battle and try to make inroads into genetic counselors' roles in doing teaching and mentoring. But I'd definitely like to do more of that." (Seasoned)

Perceptions of How One's Professional Development Process are Similar to and Different from those of other Genetic Counselors

Related to the above domain, participants were asked to what extent they believed their professional development processes to be similar to and/or different from other genetic counselors' professional development processes. A variety of responses emerged, with most feeling some similarities to other genetic counselors. Notably, some participants described perceived differences between cohorts, such as younger genetic counselors being less likely to get involved nationally, for example. Others commented on differences related to workplace setting (such as being the only genetic counselor in a setting versus those who work on a team of genetic counselors) and differences related to specific growth based on their specialty area (particularly by those who have switched specialties or developed multiple specialties in their career). Others describe individual differences, that is, ways in which they feel unique, such as being "more assertive" than other genetic counselors, being more business-minded, and so forth.

Domain 5. Influences of Personal on Professional Development (*N* = 41)

This domain describes influences of one's personal life experiences on one's professional life/development. The categories are divided into experiences affecting relationships with patients, self, career/job, and colleagues. In this domain, participants responded to the prompt, "How have events in your personal life affected your

professional development?" Participants in this domain indicated a range of personal experiences that influenced their professional development, in positive, negative, and neutral ways. The above categories focus on how genetic counselors' personal lives have influenced their professional development, but identifying and understanding *what* led to these mutual influences is particularly important here. Many participants noted that becoming a parent changed their work and/or their perspective at work. Other powerful influences disclosed by multiple participants included: marriages/partnerships (including the dissolution of such); having family members with genetic disorders and/or mental illness; and dealing with one's own status as a minority (due to sexuality, ethnicity, etc.). Some participants described other notable experiences such as taking a job closer to family, experiencing difficulty in a previous career, etc. that did influence their professional development over time. There are three categories: Self-reflection and self-advocacy; Effects on empathy for patients; and Other.

Category 1. Self-reflection and self-advocacy (n = 20; n = 6 novice, 8 experienced, 6 seasoned). Responses in this category include descriptions of self-care such as developing effective coping strategies for the difficulties in one's professional practice and setting boundaries between one's career and personal life. Several participants described self-advocacy related to making major decisions about career/job that were at least partly related to personal reasons and impacted their professional development in some way(s).

- "I had a miserable break-up and I think my brain went to mush, and basically all I could do was just get on my feet and get through a day. I was so focused on each of those patient encounters that those went fine, but everything else pretty much fell by the wayside. I think we also have this ability to preserve the areas that are the most immediate needs, so I

never gave—or I hope not—misinformation or didn't respond appropriately in a session. I felt that adrenaline kick in with each patient, but everything else just went to pot at that point. Now, being more confident in my personal situation, and having moved clear across the country and never having lived here before, and seeing, 'Yes, it's possible,' I think that's increased my confidence in a lot of ways. I need to make things best for me and not worry about the rest of them." (Novice)

- "I think having kids [has affected my professional development]. I don't see how that can't change who you are. I know before I had kids I'd work ten hour days, five days a week; I would call patients on the weekend and give them my cell phone number and all this stuff. After having kids I don't. I work three days a week, I come at eight-thirty, and I leave at five. I love my job, I really do, and I just can't imagine ever not doing it, but it's not the primary focus of my life anymore, and it was before. Just on a logistical level it's changed in that sense. It changes your perspective, and definitely there are patients –and they said this before I had children--and they say, 'Do you have kids? What would you do?' I get that question and the answer is 'Yeah, I do have kids, you're looking at their pictures on the wall.' It definitely changes how I look at things,..." (Experienced)

- "[After my divorce,] my life became so me-focused that I just tried to take time for myself to take care of myself and I think that also translated into work. I didn't have to go home to anything, so I could stay around and do extra stuff or stay after for a meeting. I know that sounds weird, but…It gave me a period of time where I was growing as a person outside of work as well as at work. Because it was this time where I was really looking a lot at my life and myself and, 'What do I want?' And I think as part of that evaluation I knew I wanted this job, it was keeping me going, it was what I woke up and looked forward to doing every day. And the whole thing impacted my life very positively, as weird as that sounds. But obviously I wouldn't be where I am if that hadn't happened…So now it's really interesting because I'm getting married and…I have started to think about: 'What are my hours here? I want to go home, there's somebody I want to go home to now'…So putting more limits on the time I spend at work…that sort of thing. I've always been pretty good about not taking work home with me; that's pretty important to me. And now even moreso, because my time at home is my time at home." (Experienced)

- "[I chose to] leave a very comfortable and very stimulating position to follow a fiancé overseas…and give up the very comfortable, secure life that I had. And give up the language, and give up, really, competence…and become incompetent and dependent. And learn another language and not have a job…I did really learn what it is like to be an immigrant…And so that was a phase—it was a very humbling phase

> where I felt like I was back in university…And I was failing sort of, stumbling on a regular basis. And experiencing that again and I think it was a phase that really taught me a lot about what life is like for those who have to give up everything to come over here to North America.
>
> And then, of course, it evolves into sort of pride as you do master the second language and you have stretched your boundaries and opened up new possibilities for yourself, but in the beginning it was very humbling…So then the third phase, I guess, would be getting into childbearing…your whole life has a different kind of meaning and became again, like a student who was, you know, [laughs] stumbling and failing and doing things wrong and learning as I go and how that influenced my practice was that I became very confident in my ability to wing it [laughs]…I don't know if anybody else has put it this way, but um, the small things that happen at work seem smaller because family life is so much more important…So I became, I had a different perspective. The things that used to keep me up at night: 'What did so-and-so say to me at work? What's going on with this student?'...Those things became simply less important because your children take up a lot more of your worry time so that I became less stressed at work and more relaxed almost. Just more, and maybe other parents say the same thing, but just more confident in my judgment, in my ability to work through a situation without having the luxury of 2 hours of prep time…Because I became a lot more pressed for time, too. And I, and I found it was sort of like trial by fire…I found, 'Oh, well I can actually conduct a *pretty* decent genetic counseling session without reading for 2 hours!'…It's, it's the ability to become more comfortable with being less than perfect at work." (Seasoned)

Category 2. Effects on empathy for patients (n = 15; *n* = 3 novice, 4 experienced, 8 seasoned). Several participants described various life experiences that affected their ability to empathize with patients. Most experiences positively affected their ability to empathize, such as experiencing infertility and consequently being able to better relate to patients experiencing similar issues. A few experiences had less positive effects, such as struggling to empathize with patients and needing to shift specialties when a genetic counselor personally experienced issues with which her patients were dealing. Further, several genetic counselors described not having children, which they perceived as decreasing their ability to empathize with patients in the same way(s) as their colleagues

who are parents. This category includes better understanding the limitations of one's empathy (ways in which one *can't* empathize) as well as deepening one's capacity for empathy with certain or all patients. Also included are self-disclosure and awareness of countertransference. Work also took on new meaning for some of these participants.

- "I have a child now. You know, when I started practicing I was a cancer counselor. And I was pregnant at that time…And so I think that practicing as a prenatal counselor, it's a little bit different I think now than if I had started practicing without having a child, because you've been through pregnancy and you can relate to some of these pregnant women and that kind of thing…Also, I had a very, very close friend who developed breast cancer at a *very* young age while I was a breast cancer counselor…And I think that she went through all the testing…So I think that that it made it more real for me as a cancer counselor…That I talk to all these women and it's all very sad, and they're all younger than 50 but then my friend had it…And so then it's a totally different perspective, I guess. And so I think that it gives you a little bit more insight to how these patients actually feel and what they go through…And so I thought that that helped me with my development as a counselor because I realized more of it…And then as a prenatal counselor, you have more empathy with some of these pregnant patients once you've had a child and once you've been pregnant." (Novice)

- "…[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, and personal emotional struggles…that a lot of patients feel. But I honestly have difficulty understanding the kind of feelings that would come with a new cancer diagnosis… especially if it's something that the doctors are saying, this is not a good prognosis…That sense of complete mortality—I don't know what that's like…And I sometimes do feel that that sense of struggle and not knowing how I personally would face that does make me think sometimes that I can't relate to my patients as much as I'd like to be able to." (Experienced)

- "Well, I had infertility…And that was, it made me aware of the difficulties and the emotional mess of pregnancy…And I think it made me a whole lot better at talking to pregnant women… I was very careful about countertransference and all that…But it did help me relate to the depth of emotion that people are feeling…I mean, of course I knew they were emotional, but it's sort of a recognition of the depth of emotion that comes

with that kind of thing…I think it enhanced my ability to sort of relate to people in terms of the emotional aspects of it." (Seasoned)

- "I think that [personal experiences] really have [affected my professional development]. One of the reasons my husband and I don't have kids is in part because of what I do. And also we both are worriers…But also, one of my [family members] has a lot of emotional issues and has been very heavy into drug and alcohol use…But I think those kinds of things have made me maybe more sensitive to people. So when I have patients, especially in prenatal, I have patients come in and they were on cocaine or they were alcoholics or whatever; I think it helps me to approach them in a less judgmental way…Because my idea was even though I totally did not approve of their behavior, it's not going to help them if they come in here and they feel like I'm disapproving of them. They're not going to want to open up to me, they're not going to want to talk to me…Having gone through some of that with my [family member], trying to still keep lines of communication open while [my family member] was doing all these things that were just unbelievable to me made me a little more able to keep some of that openness to those patients and maybe make more connections…" (Seasoned)

Category 3. Other (n = 6; *n* = 2 novice, 3 experienced, 1 seasoned). Responses in this category varied, for example, relationships with colleagues, no/little perceived impact of personal life on professional development, a conviction that one will develop cancer despite exhibiting no major risk factors.

- "I've always been a pretty strong proponent of being culturally sensitive…because different cultures handle things very differently and approach things very differently. I'm of [XXX] descent…but I was raised in a community that was primarily African-American and Hispanic. And so, from an early age, was never around my own culture. And didn't learn about my own culture until I was probably in high school in the suburbs, and I think that that, in general the way I was raised in my, in that type of community, made me have a, probably a little more of an appreciation than your average genetic counselor would for [those] culture[s]." (Novice)

- **"**You know, I'm not really sure. I can't imagine that having children hasn't in some way [affected my professional development][laughs]…But I couldn't really think back and pinpoint ways that it has." (Seasoned)

Domain 6. Career (Dis)Satisfaction (*N* = 33)

This domain largely includes responses to the questions, “How satisfied have you been throughout the course of your career?” and “Have you considered leaving the field of genetic counseling?” As such, this domain explores participants’ current satisfaction and/or dissatisfaction with their career. It includes their current satisfaction as well as their satisfaction throughout the course of their career, including whether they have ever considered leaving the field. Multiple participants indicated that they had seriously or ephemerally considered leaving the field of genetic counseling, with most of these individuals being experienced or seasoned practitioners. Those who indicated considering leaving at some point(s) during their career primarily indicated that they considered doing so in order to pursue further education (medical school, law school, public health, a PhD, nursing, etc.), though several indicated temporarily leaving in order to pursue family interests. Further, at least two participants disclosed switching positions or leaving certain types of intense clinical work in order to “take a break” and focus on other skills, new specialties, business opportunities, etc. Points of satisfaction also are included elsewhere in the data (such as in the “motivations to practice” domain). Points of dissatisfaction in one’s career include the lack of ability to bill, lack of respect from fellow medical professionals and health care administrators, instability of funding/budget cuts, financial compensation, an ever-increasing amount of paperwork, and lack of autonomy in one’s current position. There are four categories: Consistently very satisfied, Currently more satisfied than in the past, Currently less satisfied, and Multiple vacillations throughout career.

Category 1. Consistently very satisfied (n = 15; *n* = 8 novice, 2 experienced, 5 seasoned). A number of participants expressed pleasure with their career. A few reported

briefly considering leaving the field, but never becoming serious about it; their thoughts of leaving typically transformed into stronger feelings of connection to the field.

- "I really love it. I've had a number of transitions just in my own mind of either the patient responsibility or the other responsibilities, and every time it changes, or I find a new area of interest, or a new patient is just really intriguing, it just brings me back to [the fact that] this is just a fabulous job. There are so many things we can do and we can really help, and it's something that I've learned over time that not many people can do. There are just so many inherent traits that we have to have to be in this profession and they can't be taught, and so I think that's just heartwarming at the same time." (Novice)

- "I have been very satisfied with the career itself. I definitely feel like I chose the right profession for me. I think that even though it is hard to find ways to kind of continue with professional development and keep things changing and keep things moving, I think you *can* do it, it just requires some effort. I think especially probably over the first 10 years or so after that, I can see it probably getting a little bit harder…But I still feel like I've got room to expand and lots of new things I can do and try, so that part is nice." (Novice)

- "Extremely satisfied…I love my job. I feel really lucky. I have girlfriends who, you know, bitch and moan and moan about going to work… [laughs] and I feel really lucky that I can get up and really look forward to going to work—on most days…" (Experienced)

- "Oh, highly satisfied. Highly satisfied. I think that I am the kind of person who, you know, my default setting is happy…It's a, sort of a positive outlook on life. And so I think that whatever situation I'm in, I'm going to end up liking it just by sort of making it fit…So I would say highly satisfied. I did leave one position when I realized it was terrible and I really couldn't change it…So it's not that I am *silly* and happy. [Laughs] You know, there are limits…Also I think I've been blessed with having positions where I do have a lot of autonomy, respect, and flexibility, so I can kind of do what I want—do what interests me, and pursue whatever I think it would be fun to pursue or implement or develop, so that it taps into the creative side." (Seasoned)

Category 2. Currently more satisfied than in past (n = 5; n = 1 novice, 3 experienced, 1 seasoned). Participants in this category described experiencing more

career satisfaction with genetic counseling now than they have in the past, for a variety of reasons.

- "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.' I've always explored potential other opportunities. 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 in that position internally within that position, or I've moved on…I would say that I am in a good place right now. In the last two 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, so I think I'm in a pretty good place right now. 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." (Experienced)

- "Well, I feel, it's pretty satisfying now… I feel like I'm too busy, but we just need more people and it's just been hard to recruit…So I feel overwhelmed right now, but it's really my problem to solve, it's not a structural problem…I think I was extremely dissatisfied with my job at the [XXX]… which is why I left. I was okay with the day to day stuff at the [XXX], but I have to say they, it wore me down. I didn't feel like I was being adequately compensated, I didn't feel like the [XXX] was behind the genetic counseling program, that again is why I left that job…I didn't feel valued there…." (Experienced)

- "[My current satisfaction is] probably somewhere in the middle…I think I'm probably more satisfied now than I was for a while. [laughs]…And, and I do think again some of the unconscious stuff—there is that part of me that really does enjoy helping people and a part of me that is sort of I guess proud of what we do. I feel like we really *can* make a difference for people. And it's never boring. So for me it's still interesting, I feel like I still learn things every day. I still feel stimulated in that way. Where I work right now, people here are absolutely brilliant, so I'm really learning a ton even though I've been doing this for a while…I'm in a bigger city and we just see a lot more and so I really feel like my knowledge has grown, both within science and even dealing with psychosocial issues and

> that kind of thing. That part, I think, is very satisfying. The stress level, no, I don't like so much! [laughs] [My stress level] goes up and down. I mean there's a constant level but I think again, that's more of my personality. I'm just one of those persons that has a lot of anxiety about things….For a long time, I considered leaving the field, but haven't really been in an area where there may be other ways of using the genetics or the background that I have. But the other is that part of me still really likes the helping of the families and being there for them." (Seasoned)

Category 3. Currently less satisfied (*n* = 7; *n* = 0 novice, 4 experienced, 3 seasoned). Participants coded into this category disclosed experiencing less current career satisfaction than they have experienced in the past, for a variety of reasons. Some commented on continuing to enjoy patient interaction while others commented on the emotional drain of some types of patient interaction. Several commented that the amount of paperwork and increased administrative duties detract from their career satisfaction.

- "I think that I have good satisfaction right now. I probably had excellent satisfaction about 5 years ago, so it's a little bit lower than it was previously. I think I'm beginning to feel like I might have to at some point do something different…But I'm not ready to do it yet. So it might be another 5 or 10 years before I'm at the point where I feel like I need to do something…I do feel like it's a stable position and I like the people I work with. And were I to have a child, for example, I would sort of want that before I would alter my career at this point in my life. *[Interviewer: Sure, okay. Well, <u>have you ever considered leaving the field of genetic counseling?]</u>* I've thought about it. But if I left the field of genetic counseling, what I would probably do is something ancillary to genetic counseling…maybe going back to school for a PhD in public health, doing research related to genetics. I mentioned earlier going back and maybe getting health care administration degree or MBA…" (Experienced)

- "Well, I've loved it, probably for the first 10 years…I still love the patient interaction, I still like to talk to patients, I still find that interesting— seeing what people's thoughts are, trying to help them make a decision, trying to help them feel empowered so they can have some power over what's going on. I really think that's important and I still enjoy that part…The administrative part over the years has become a drain. So I feel like that—no real, you know certainly no financial rewards, certainly no institutional rewards. [There's a pressure to] always [be] looking at numbers, have to see more patients, it's a very unsupported profession I think, in many ways…And that's become really old as I've gotten older, I have less tolerance for it maybe. *[Interviewer: Well, along those lines, <u>have you ever</u>*

considered leaving the field of genetic counseling?] Not really. I really like the patient interaction enough to keep doing it. I do it part time now because of the lack of institutional support. I just have found that it's too hard to do it everyday and feel like no one appreciates what you do, either financially or even in spirit, no one appreciates what you do and that they just want you to see more and more patients…(Seasoned)

Category 4. Multiple vacillations throughout career (n = 6; *n* = 1 novice, 3 experienced, 2 seasoned). A few participants described career satisfaction that has ebbed and flowed during their professional careers to date.

- "I would say, ultimately it's waxed and waned. I've always been satisfied as a genetic counselor, but there have been periods of struggle to make sure that the job that I'm in is really as rewarding as it could be. Whether that's because of the type of work that I'm trying to do or the co-workers that I work with [laughs], which is aside from genetic counseling… Currently my satisfaction is on its way back up again…I think it was just a very hard transition to come out here and [I] have lost a lot of that independence, I suppose…I think that's offset by a lot of the positive things, too, so…We're in the process of a lot of good change here right now, so I'm hopeful. *[Interviewer: Okay, great. Have you ever considered leaving the field of genetic counseling?]* Yeah, I have. And probably the follow-up question would be 'Why?'…Which is, some of it is feeling like, I'm just not able to find the right job at the right time, in addition to other things. A lot of it is salary-related…You look at other jobs and go, 'Oh, I could make a lot more money doing that!' But, you know, I certainly knew going into it that this wasn't going to be the most lucrative profession to be in…So, considering other things…it's never been leave completely the field of genetics, though…Maybe doing a nursing degree so that you could maybe do a combination of those skills" (Novice)

- "I think satisfaction has changed certainly over the years in different situations. I think it's normal probably for that to happen …For people, as ups and downs. So if you're asking overall as a whole, I'm very satisfied with my career. And I remember when I first graduated thinking well, I know I can do this for 3 years, 5 years, but then I'll have to see. Maybe I'll want to go back and get a PhD or do something different…And certainly that's not happened! [laughs]…I've been happy just to change, you know, streams a little bit, and take on other challenges and learn to take on different opportunities so that I could change my responsibilities and learn as I went along." (Experienced)

- "[Laughs] Throughout the course, okay. It's kind of been up and down, frankly. Sometimes when I'm feeling like I'm not getting opportunities to do new things

> in my job here, which is important when you're in the same place for a really long time…And when you're a genetic counselor for this long. I've had some really down times in terms of even though it's not my main motivation as a profession or I would have left this career long ago—financial compensation. You know, it's not my main goal in life but I do need to make a living and I have kids to go to college…I need to make a reasonable salary and make good benefits. I think professionals deserve that [laughs]…and there have been times where we've faced severe budget cuts and I've felt that my salary was extremely out of whack with what I was being asked to do…So that's been a challenge, to feel satisfaction, to be recognized as a professional. But we have some first year students who come in the summer internship. You know, the intellectual part is on, so satisfying. And working with families, I find it very satisfying, even though I don't always feel like I'm able to help them reach peace, solve problems, and get a diagnosis or whatever their goal is—it's so diverse…I really find the struggle of working with families satisfying. *[Interviewer: Okay. Well <u>have you ever considered leaving the field of genetic counseling</u>?]* Yeah, off and on I have. I've certainly looked at going back to graduate school. I've thought about going back and getting a degree in public health. That's always been kind of an interest. But I think I've kind of passed that now, at my age. [laughs] …You know, I thought briefly, earlier in my career, about going on to get a PhD, so yeah, I've thought about it off and on." (Seasoned)

Similarities and Differences for Theme 3 Across Experience Levels

Many similarities existed in responses across experience levels. For example, participants at each level described similar motivations to practice genetic counseling and definitions/views of genetic counseling. While at various stages in their professional development processes, they described similar types of catalysts for growth, including job shift(s) and involvement in national organizations, for example.

Differences between experience levels were most salient in the "Influences of Personal on Professional Development" domain. With more life experience, the seasoned practitioners described more ways in which their personal lives had intertwined with and affected their professional work. For example, in one of the categories of that domain, "Effects on empathy for patients," 3 novice, 4 experienced, and 8 seasoned participants provided responses coded into that category. Also, in the "Plans/Goals/Concerns Re:

Continued Professional Development," several seasoned respondents mentioned retirement and winding their careers down, while that was not as prevalent in the novice and experienced levels.

Orlinsky et al. (2005) Data: Fifteen Influences on Professional Development

As part of the interview, participants were read instructions asking them to rate 15 professional development influences (adapted and modified from Orlinsky et al.'s Development of Psychotherapists Common Core Questionnaire), using a four-point rating scale with 1 = *No influence*, and 4 =*A great deal of influence.* If individuals did not participate in an activity—such as giving supervision—they indicated "1." Adaptations to the DPCCQ questions were based on piloting the interview protocol with five currently practicing genetic counselors representing all three experience levels.

Some of the present participants elaborated on their answers, but many of their responses were very brief and limited to the number rating itself. After reading 14 influences in alphabetical order to the participants, they were asked if any "other" influences affected their professional development. A total of five participants responded to this prompt, and all five rated the influence they specified (i.e., participation in national professional organizations, peer group supervision, and autonomy afforded by physician with whom one works) as a "4." Thus, "Other" is the top-ranking influence, although this ranking represents only five participants.

As Figure 2 and Table 4 illustrate, the top ranking influences, excluding "Other," are: experiences in genetic counseling with patients, working with genetic counseling colleagues, working with other professionals, and informal case discussion with

colleagues. The least influential are: personal therapy, analysis, counseling, or genetic counseling; doing research; and observing other genetic counselors.

As shown in Figure 2, there are differences in rankings between each experience level (novice, experienced, and seasoned), although there is substantial overlap. Relational influences topped each list, including patient relationships, relationships with fellow genetic counselors and other professionals, and informal case discussion with colleagues. “Experiences in genetic counseling with patients” topped each group’s list as most influential (based on means). “Working with genetic counseling colleagues” was second for both novice and seasoned practitioners, while “Working with other professionals” tied with “Experiences in genetic counseling with patients” for the experienced genetic counselor group’s top influence. “Personal therapy, analysis, counseling, or genetic counseling” was reported as being the least influential for each of the three groups. “Doing research” was rated the second least influential for both the novice and seasoned practitioners, while it was rated the fifth most influential for experienced practitioners. Table 5 enumerates the Orlinsky et al. (2005) influences present for the genetic counselors in this study as well as for the psychotherapist participants in their sample. Results from Table 5 will be discussed further in Chapter 5.

Figure 4. Rating of Orlinsky et al.'s (2005) Professional Development Influences

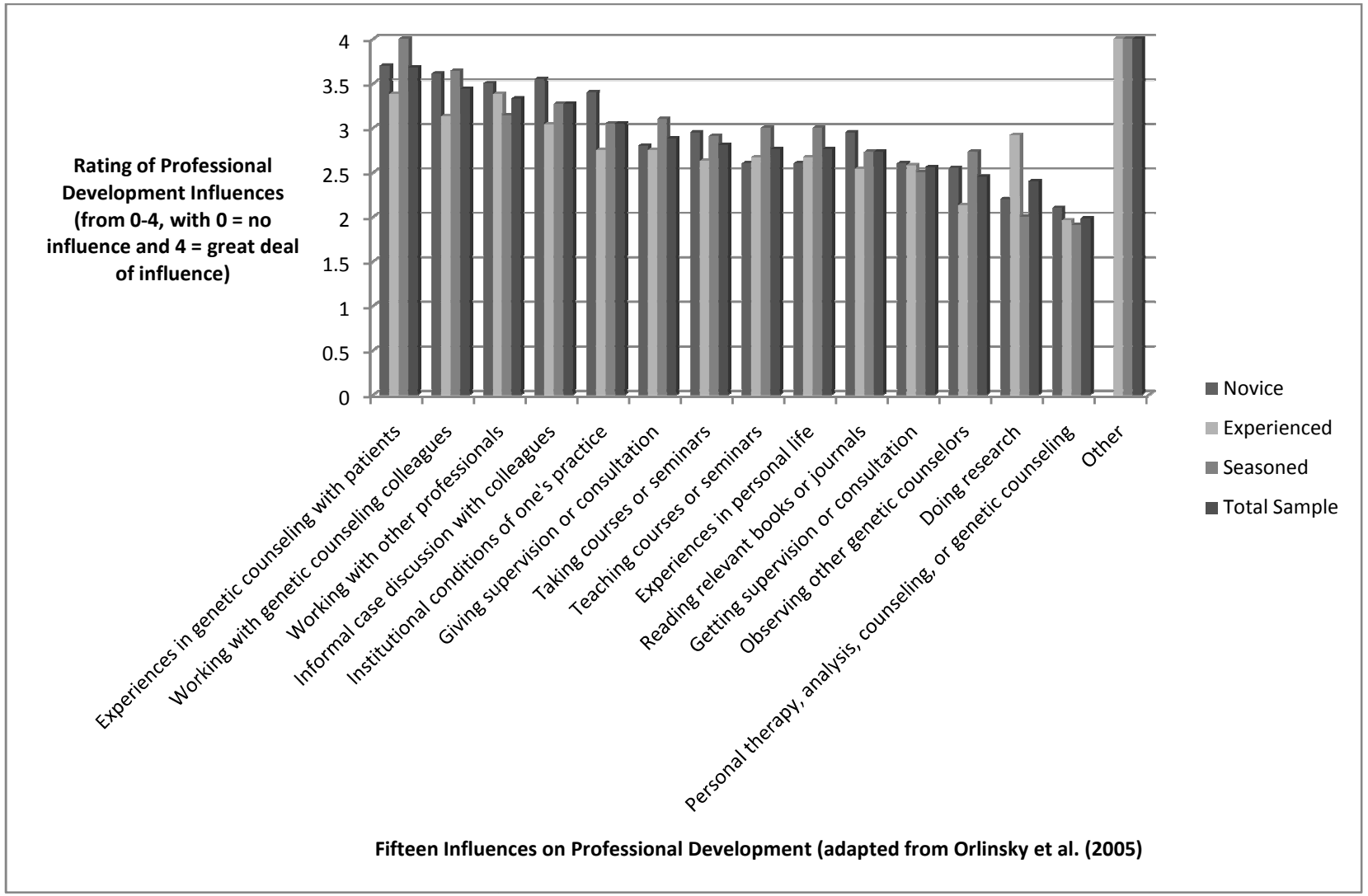


Table 4. Participants' Ratings of Orlinsky et al. (2005) 15 Professional Development Influences

Sources of Influence	**Novice (*n* = 10)** Mean	**Novice (*n* = 10)** *n* who rated this influence	**Experienced (*n* = 12)** Mean	**Experienced (*n* = 12)** *n* who rated this influence	**Seasoned (*n* = 12)** Mean	**Seasoned (*n* = 12)** *n* who rated this influence	**Total Sample (*N* = 34)** Mean	**Total Sample (*N* = 34)** *n* who rated this influence
Other	N/A	0	4.0[a] (0.00)	1	4.0[b] (0.00)	4	4.0 (0.0)	5
Experiences in genetic counseling with patients	3.70 (0.48)	10	3.38 (0.93)	12	4.0 (0.0)	11	3.68 (.66)	33
Working with genetic counseling colleagues	3.61[c] (0.60)	9	3.13 (1.00)	12	3.64 (.67)	11	3.44 (.81)	32
Working with other professionals	3.50 (0.71)	10	3.38 (.64)	12	3.14 (.84)	11	3.33 (.73)	33
Informal case discussion with colleagues	3.55 (0.69)	10	3.04 (0.62)	12	3.27 (.65)	11	3.27 (.66)	33
Institutional conditions of one's practice	3.40 (0.52)	10	2.75 (.97)	12	3.05 (.96)	11	3.05 (.87)	33
Giving supervision or	2.80 (1.14)	10	2.75 (1.14)	12	3.10 (.83)	11	2.88 (1.02)	33

consultation								
Taking courses or seminars	2.95 (0.83)	10	2.63 (.77)	12	2.91 (.70)	11	2.81 (.76)	33
Teaching courses or seminars	2.60 (1.17)	10	2.67 (.69)	12	3.0 (.89)	11	2.76 (.91)	33
Experiences in personal life	2.60 (1.08)	10	2.67 (1.07)	12	3.0 (.77)	11	2.76 (.97)	33
Reading relevant books or journals	2.95 (0.69)	10	2.54 (.89)	12	2.73 (1.01)	11	2.73 (.87)	33
Getting supervision or consultation	2.60 (0.70)	10	2.58 (1.00)	12	2.5 (.98)	11	2.56 (.88)	33
Observing other genetic counselors	2.55 (0.90)	10	2.13 (0.96)	12	2.73 (.90)	11	2.45 (.93)	33
Doing research	2.20 (1.14)	10	2.92 (1.08)	12	2.0 (1.18)	11	2.40 (1.17)	33
Personal therapy, analysis, counseling, or genetic counseling	2.10 (1.20)	10	1.96 (.69)	12	1.91 (1.04)	11	1.98 (.96)	33

Note. Numbers in parentheses are standard deviations. Means are based on a 4-point rating scale where 1 = this activity had *no influence* on my professional development and 4 = this activity has had *a great deal* of influence on my professional development. N = 33, as one genetic counselor (seasoned) had to end the interview before responding to these questions.

[a]Other = involvement in national professional organization;

[b]Other = involvement in national professional organizations, autonomy afforded by physicians with whom one works, and peer group supervision)

[c] One novice participant's response to one professional development influence ("working with genetic counseling colleagues") was inaudible on the tape and was therefore excluded from calculating values for the novice group. Thus, for that one influence, $n = 9$, rather than $n = 10$ as is the case for the other influence

Table 5. Rankings of Mean Difference Ratings of Professional Development Influences by Genetic Counselors vs Orlinsky et al.'s Psychotherapist Sample

Entire Sample (N=33)	***Novice (n=10)***	***Experienced (n=12)***	***Seasoned (n=11)***	***Orlinsky et al. (2005) psychotherapists****
Experiences in genetic counseling with patients	**Experiences in genetic counseling with patients**	**Experiences in genetic counseling with patients**	**Experiences in genetic counseling with patients**	**Experience with patients**
Working with genetic counseling colleagues	Working with genetic counseling colleagues	Working with other professionals	Working with genetic counseling colleagues	Getting formal supervision
Working with other professionals	**Informal case discussion with colleagues**	Working with genetic counseling colleagues	**Informal case discussion with colleagues**	Getting personal therapy
Informal case discussion with colleagues	Working with other professionals	**Informal case discussion with colleagues**	Working with other Professionals	Experiences in personal life
Institutional conditions of one's practice	Institutional conditions of one's practice	Doing research	Giving supervision or Consultation	**Informal case discussions**
Giving supervision or consultation	Reading relevant books or journals	Giving supervision or consultation	Institutional conditions of one's practice	Taking courses or seminars
Taking courses or seminars	Taking courses or seminars	Institutional conditions of one's practice	Experiences in personal Life	Reading books or journals
Experiences in personal Life	Giving supervision or consultation	Teaching courses or seminars	Teaching courses or seminars	Giving formal supervision
Teaching courses or seminars	Getting supervision or consultation	Experiences in personal Life	Taking courses or seminars	Working with cotherapists
Reading relevant books or journals	Experiences in personal life	Taking courses or seminars	**Observing other genetic counselors**	**Observing other therapists**
Getting supervision or consultation	Teaching courses or seminars	Getting supervision or consultation	Reading relevant books or journals	Institutional work conditions
Observing other genetic counselors	**Observing other genetic counselors**	Reading relevant books or journals	Getting supervision or consultation	Teaching courses/seminars
Doing research	Doing research	**Observing other genetic counselors**	Doing research	Doing research
Personal therapy,	Personal therapy,	Personal therapy,	Personal therapy,	

analysis, counseling, or genetic counseling	analysis, counseling, or genetic counseling	analysis, counseling, or genetic counseling	analysis, counseling, or genetic counseling

*Orlinsky et al.'s (2005) wording is slightly different than this study's, as this study adapted the items to be most relevant for genetic counselors. Items in bold font indicate influences that are in the top five or bottom five within and across the genetic counselor experience levels and Orlinsky's et al., sample of psychotherapists.

Figure 5. Experiences in Genetic Counseling With Patients (Mean Ratings)

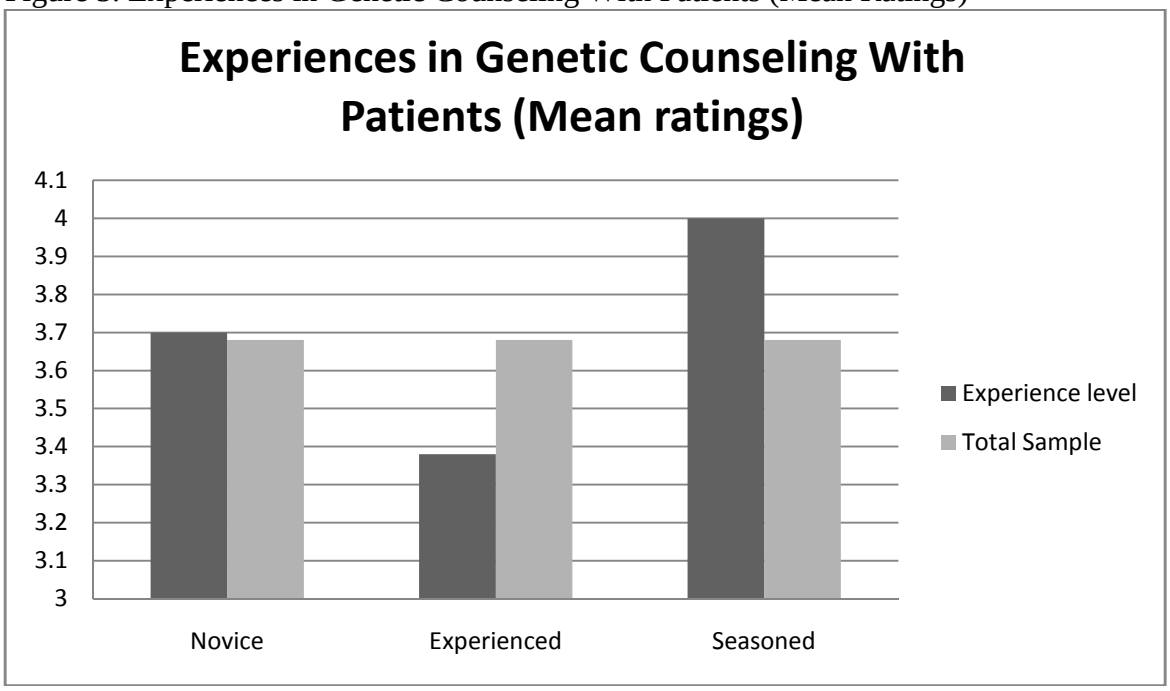


Figure 6. Working With Genetic Counseling Colleagues (Mean Ratings)

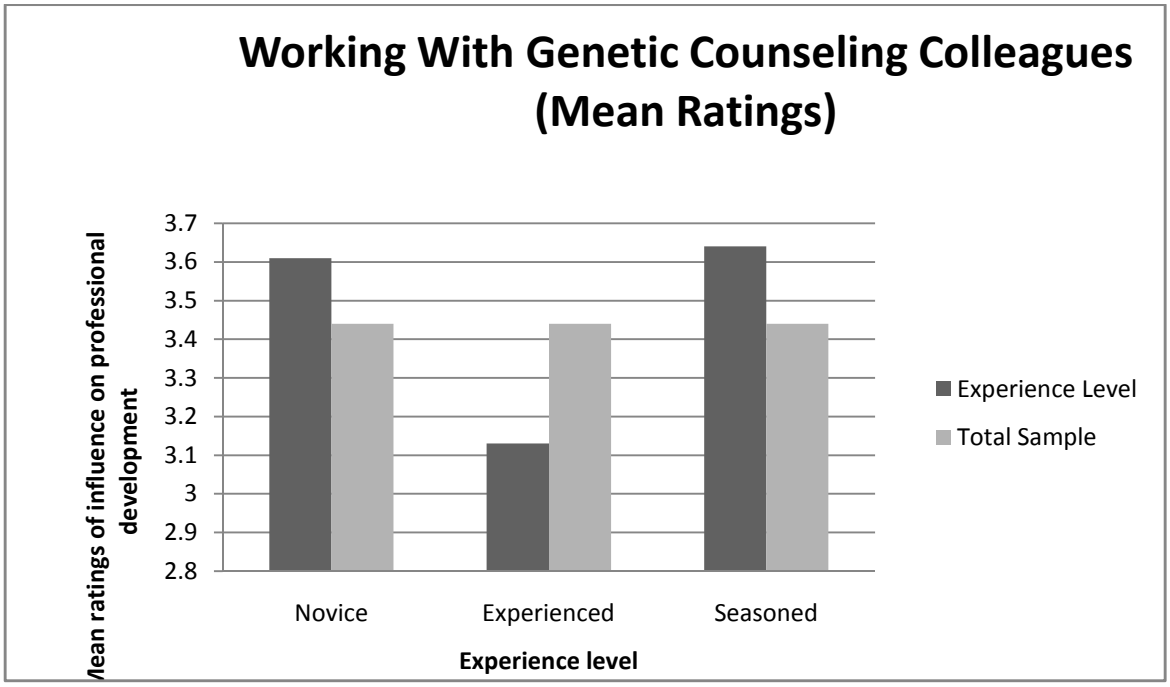


Figure 7. Institutional Conditions of One's Practice (Mean Ratings)

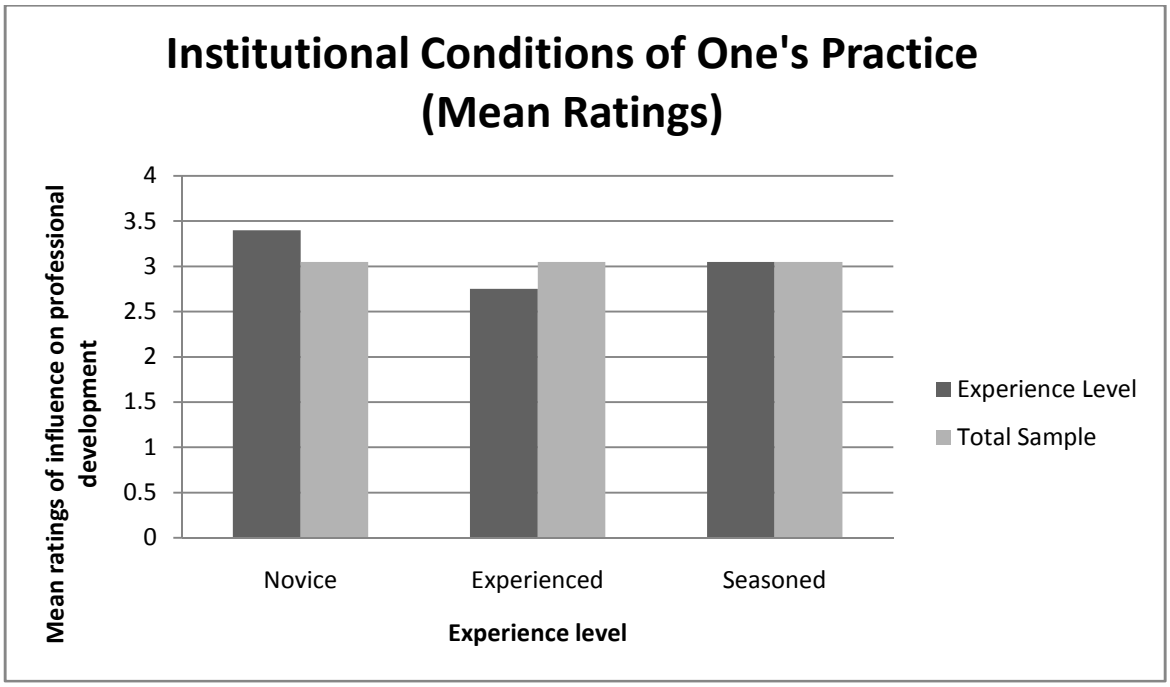


Figure 8. Working With Other Professionals (Mean Ratings)

Figure 9. Giving Supervision or Consultation (Mean Ratings)

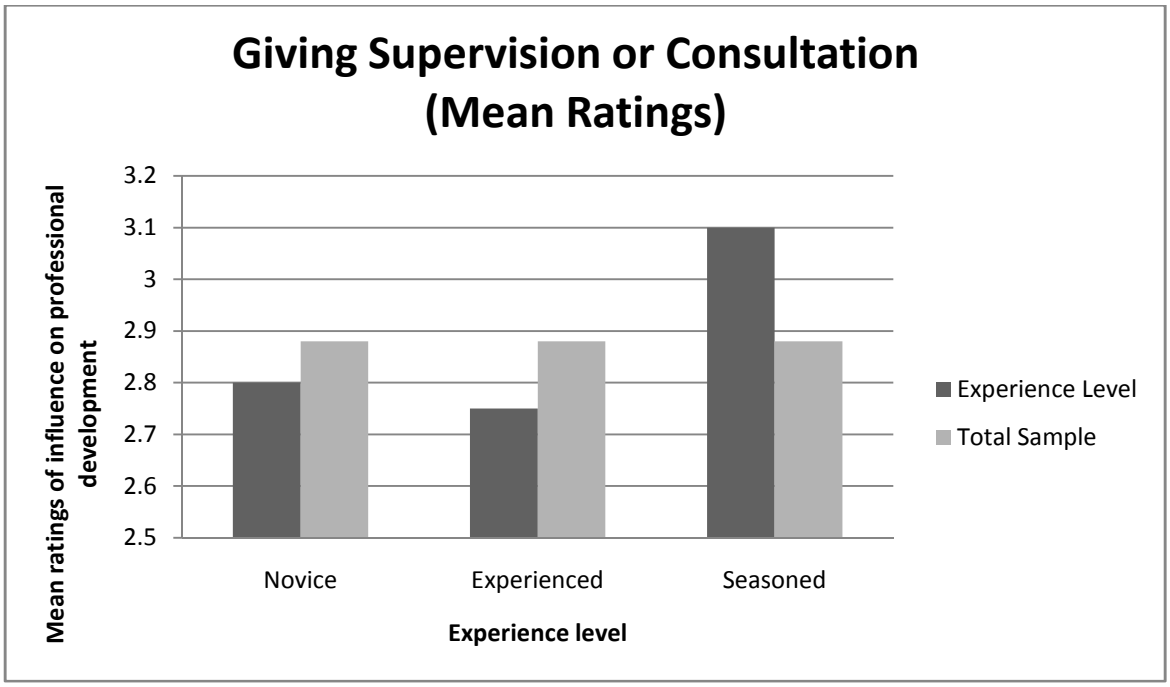


Figure 10. Taking Courses or Seminars (Mean Ratings)

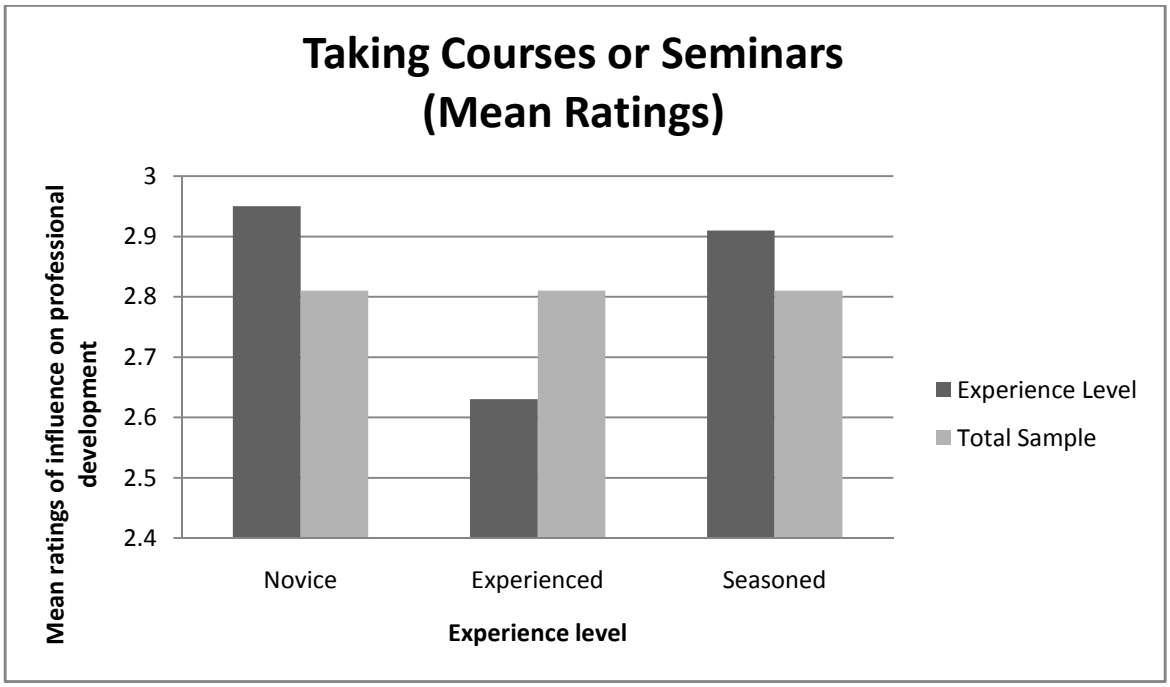


Figure 11. Informal Case Discussion With Colleagues (Mean Ratings)

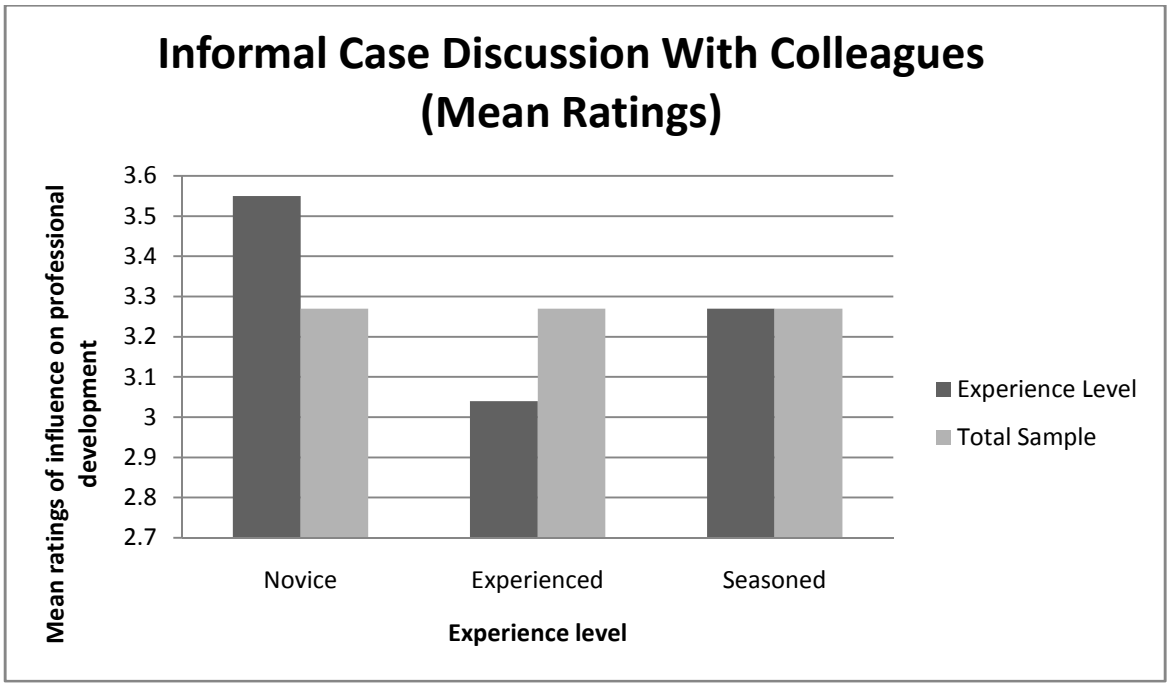


Figure 12. Teaching Courses or Seminars (Mean Ratings)

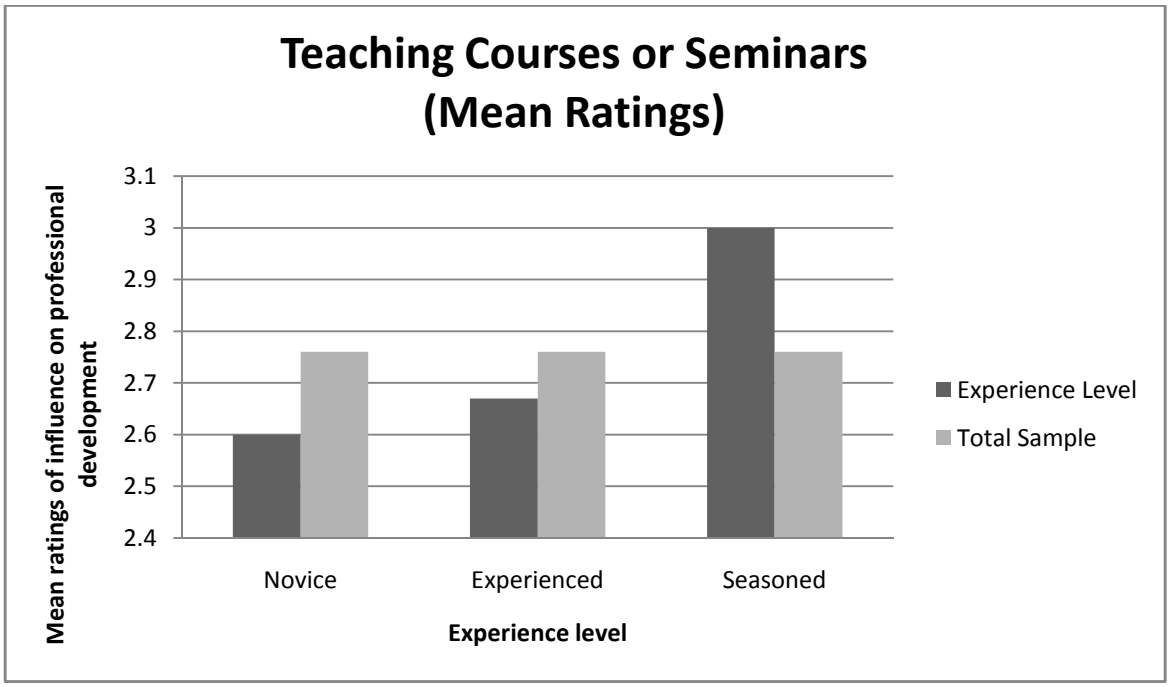


Figure 13. Experiences in Personal Life (Mean Ratings)

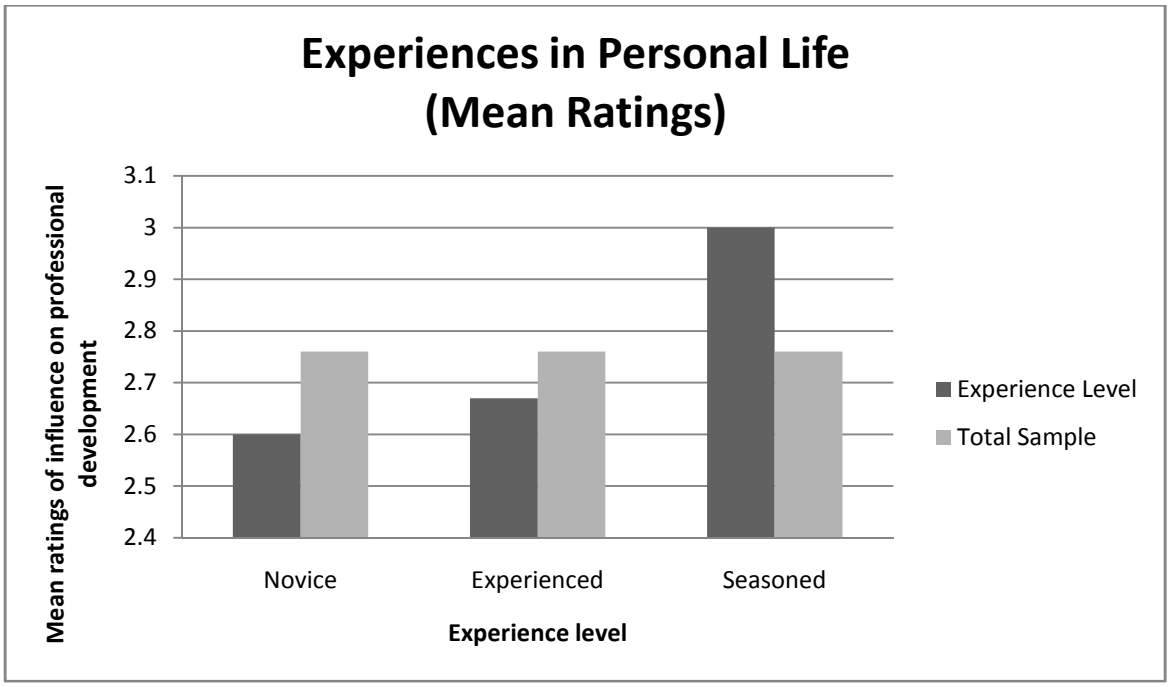


Figure 14. Reading Relevant Books or Journals (Mean Ratings)

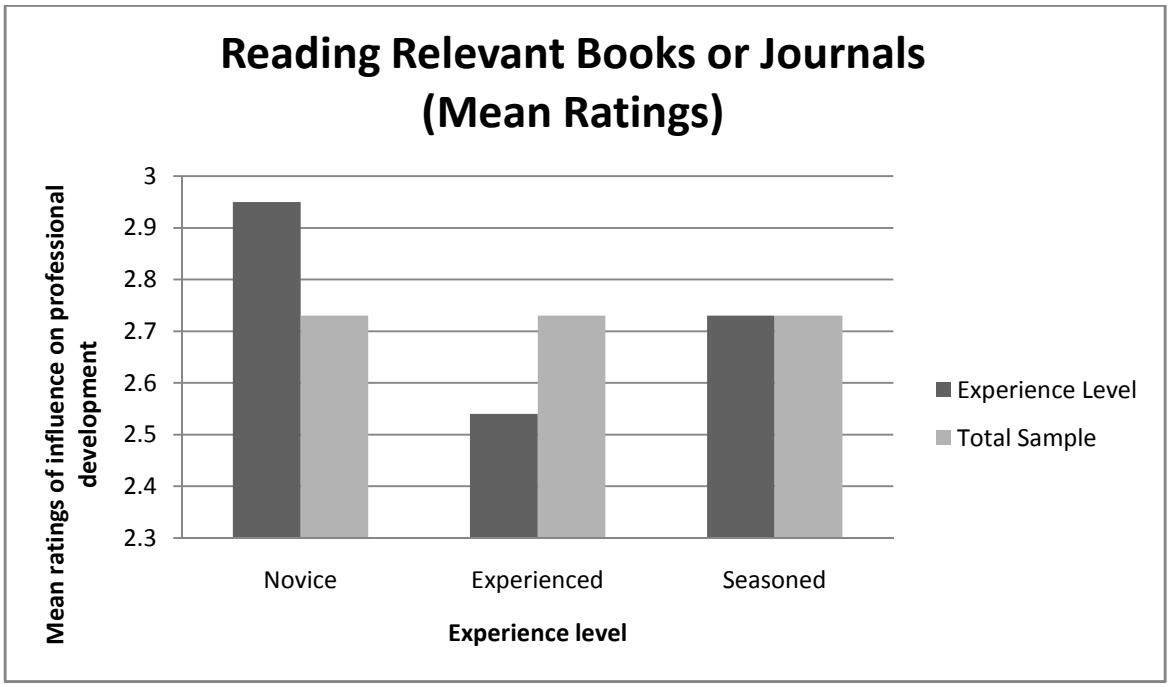


Figure 15. Getting Supervision or Consultation (Mean Ratings)

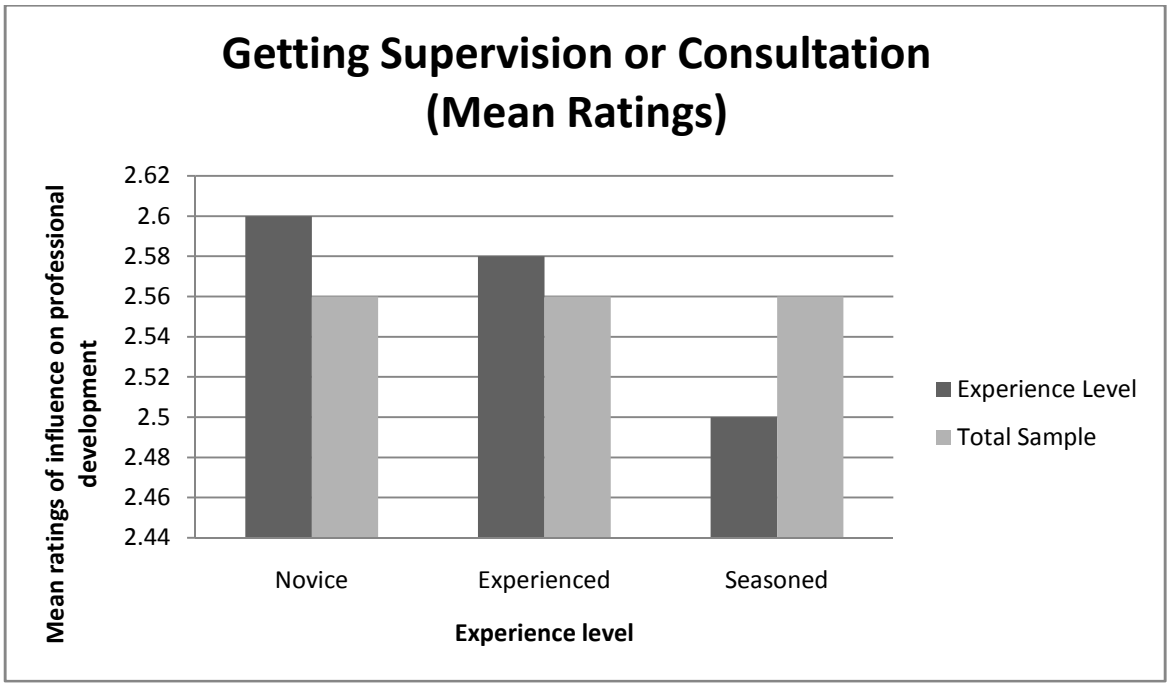


Figure 16. Observing Other Genetic Counselors (Mean Ratings)

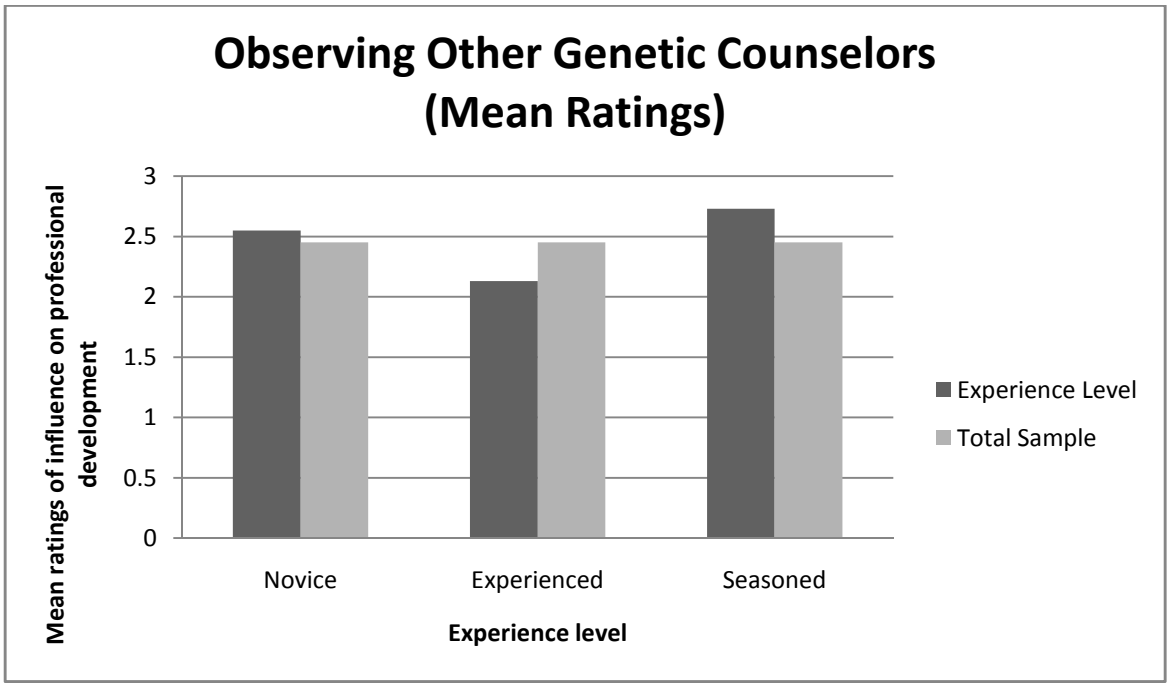


Figure 17. Doing Research (Mean Ratings)

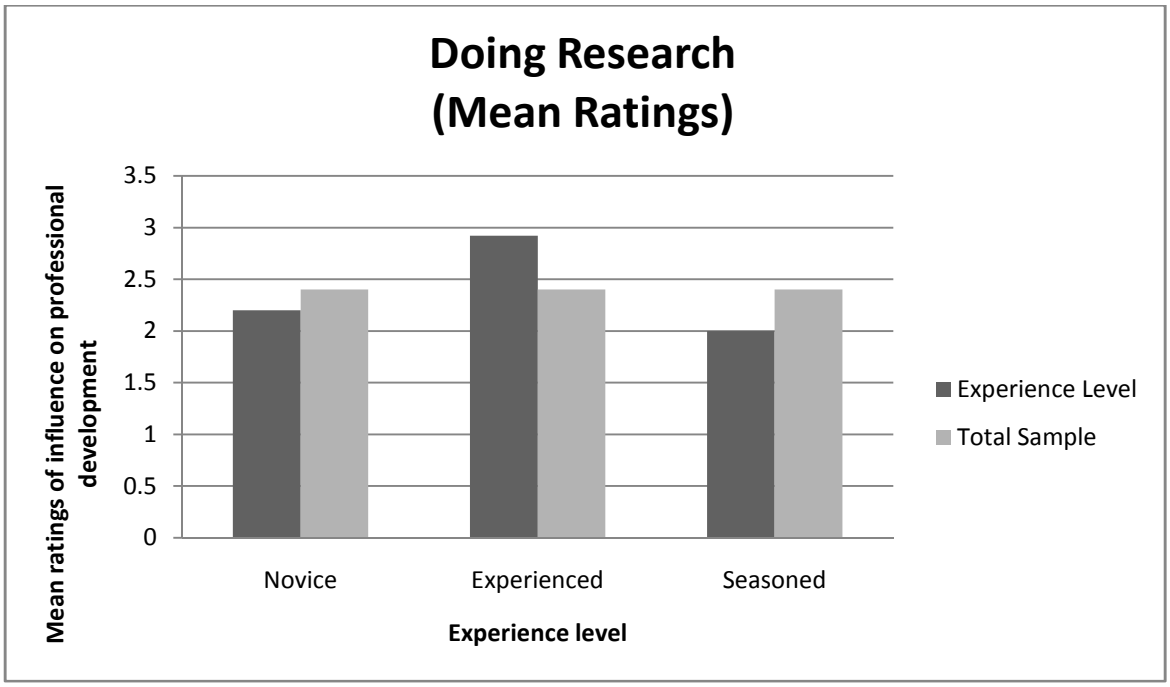


Figure 18. Personal Therapy, Analysis, Counseling, or Genetic Counseling (Mean Ratings)

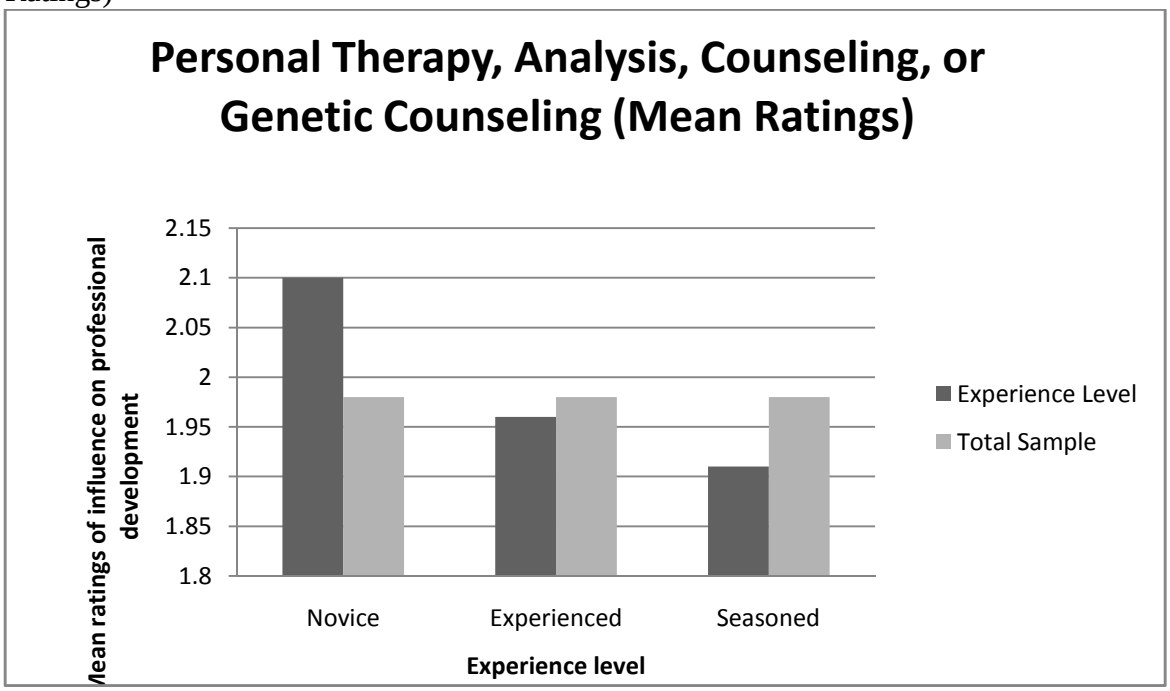


Figure 19. Other (Mean Ratings)

CHAPTER FIVE

Discussion

Purpose of the Present Study

The purpose of the present study was to systematically investigate professional development processes for genetic counselors throughout their professional lifespans. Thirty-four post-degree participants were interviewed using a semi-structured, telephone-based interview format informed by the theoretical underpinnings of Skovholt and Ronnestad (1992 / 2003) and Orlinsky, Ronnestad, and the Collaborative Research Network of the Society for Psychotherapy Research (2005). A modified version of Consensual Qualitative Research (CQR; Hill, Thompson, & Williams, 1997**;** Hill, Knox, Thompson, Nutt Williams, Hess, & Ladany, 2005) was used to extract themes, domains, and categories from the data. A cross-sectional design allowed comparisons among *novice* practitioners ($\leq$ 5 years post-degree experience); *experienced* practitioners (6-14 years post-degree experience); and *seasoned* practitioners ($\geq$15 years of post-degree experience). Major findings are discussed in the following sections, according to the five major research questions: 1) What constitutes professional development for genetic counselors? 2) How do these professional development processes occur for genetic counselors? 3) What facilitates and/or impedes their professional development? Additionally, two research questions emerged through the course of the study: 4) How does genetic counselor professional development vary as a function of experience level? 5) How does genetic counselor professional development compare/contrast to the findings of Skovholt and Ronnestad (1992 / 2003) and Orlinsky et al. (2005)? Discussion

of findings relevant to the major research questions is framed according to a proposed Genetic Counselor Model of Professional Development, described next

Discussion of Key Findings

Overview of Genetic Counselor Model of Professional Development

The five research questions will be addressed for each of the study's major findings in the following section. The qualitative results are represented as a set of mutual influences on professional development, as shown in Figure 1.The figure depicts a large, encompassing circle, which represents the entirety of genetic counselor professional development. Within the large circle are the three main influences on professional development, corresponding to the three "themes" in the CQR findings. Each of the three themes is connected to the other two via bi-directional arrows, suggesting that as one area of professional development influences each other area, it in turn influences itself. This process of ongoing mutual influence has important implications for understanding genetic counselor professional development, as it suggests that if a genetic counselor makes positive gains in one area, it my influence professional development in other areas. Likewise, negative development in one area, may shape professional development in the other areas [e.g., if compassion fatigue occurs in one's clinical work (Theme 1), that experience might negatively affect career satisfaction (Theme 3) and negatively affect views about the role of being a genetic counselor in the field (Theme 2)].

As Figure 20 illustrates, each of the three circles (themes) also has at least one square attached to it. Each of these squares represents subcomponents of the circles,

Figure 20. Visual Representation

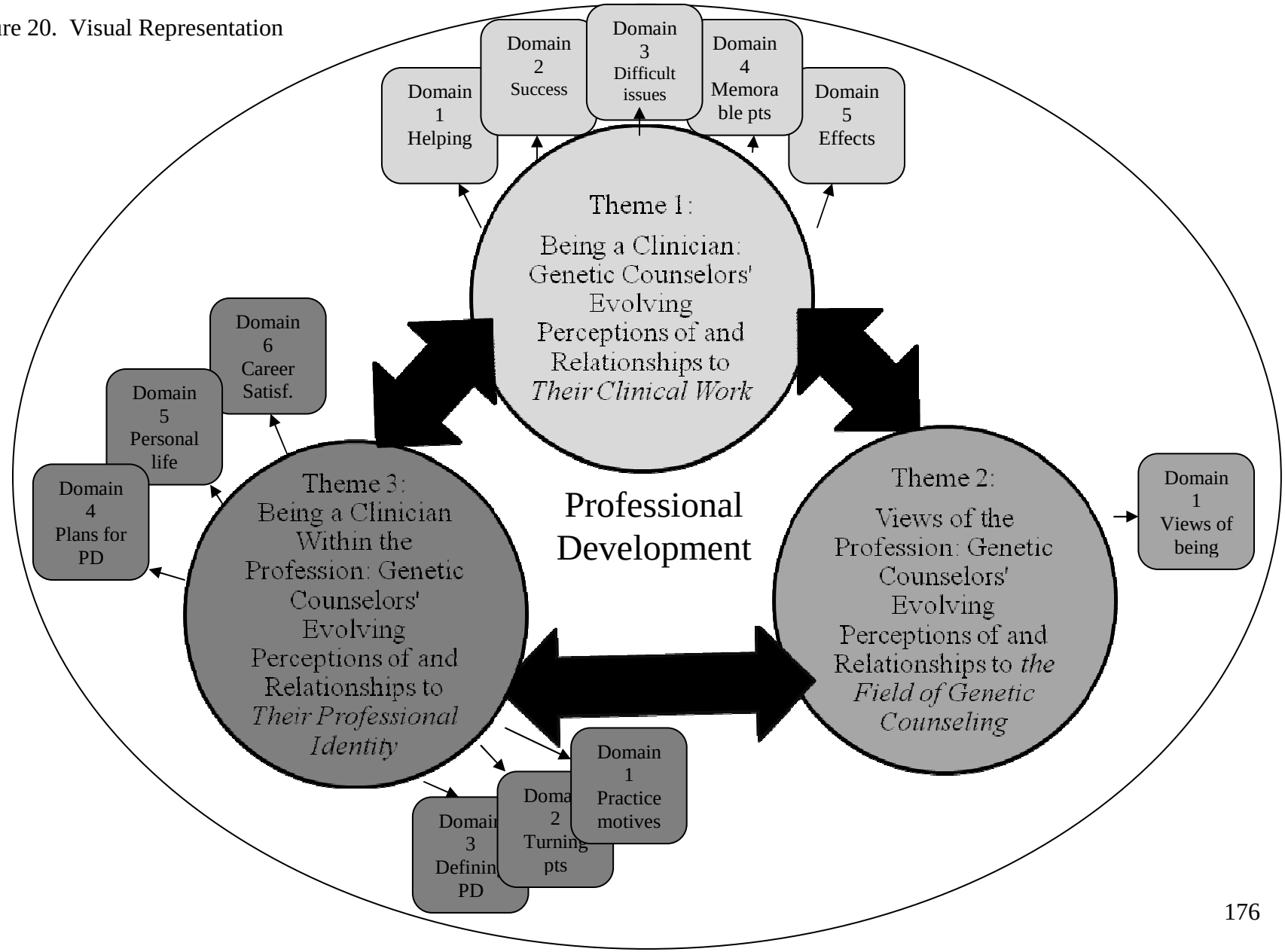


Figure 20 Key:
Full names of domains:

Theme 1	Domain 1	Components of helping
	Domain 2	Defining and identifying “success”
	Domain 3	Difficult issues / Patient challenges
	Domain 4	Memorable patients
	Domain 5	Effects of Memorable Patients on Clinical Work
Theme 2	Domain 1	Views of practicing genetic counseling and being a genetic counselor
Theme 3	Domain 1	Current motivations to practice genetic counseling
	Domain 2	Turning points / Catalysts for professional growth
	Domain 3	Definitions / Views of professional development
	Domain 4	Plans / Goals / Fears re: continued professional development
	Domain 5	Influences of personal on professional development
	Domain 6	Career (dis) satisfaction

representative of the domains within a given theme. The squares (domains) reflect the more specific influences on professional development, such as "perceived effects of memorable patients on clinical work" (Theme 1) and "current motivations to practice genetic counseling" (Theme 3). So, further elaborating on the example above, if a genetic counselor experiences a number of difficult issues in sessions with patients and begins displaying signs of compassion fatigue[xiii], the model illustrates that his/her view of the effectiveness of genetic counseling as a field (Theme 2, Domain 1) might be negatively affected, as could be her personal life experiences [such as through irritability or struggles with loved ones (Theme 3, Domain 3)], which could, in turn affect professional development experiences overall. Likewise, if a genetic counselor becomes involved in a national professional organization and finds meaning and value in developing policy for billing/licensure issues, for example, these experiences could positively affect her or his view of the field of genetic counseling as a whole (Theme 2, Domain 1) and help the counselor feel more empowered in dealing with difficult issues with patients (Theme 1, Domain 3).

This model is not meant to imply causality (which extends beyond the scope or intention of the present study), but the findings do strongly suggest the interconnectedness of influences on one's professional development. The mutual influences of each theme and domain have important implications for conceptualizing genetic counselor professional development over time, for the reasons just discussed. The model represented in Figure 1 portrays professional development as a continuous process with all aspects of professional development being affected—and affecting others—at any given time, from graduation to retirement. Professional development does not stop,

even at times where one does not necessarily notice profound movement or growth. The figure also reflects the findings from this study that professional growth is not a linear process. As will be discussed, genetic counselor professional development occurs gradually over time and with experience, with "defining moments" or key experiences providing additional small bursts of growth.

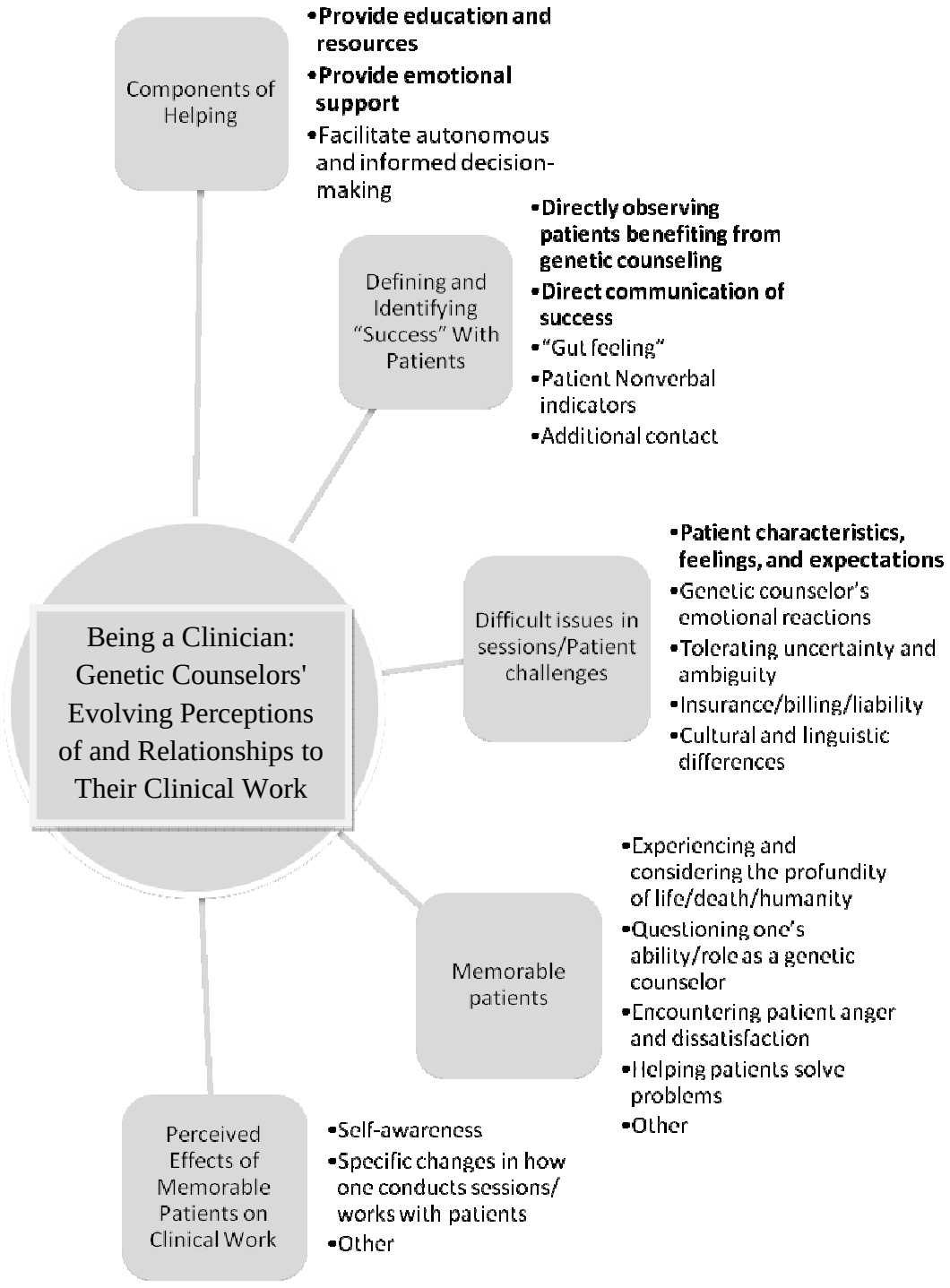
The three themes represented in Figure 1 mutually influence each other over time and with experience, such that additional experience provides opportunities for additional growth, and thus depth, of professional experience. While *quantity* of experience (years in field, number and breadth of patients seen, etc.) appeared to be at least somewhat important to one's professional growth (with seasoned professionals sharing many rich personal life experiences, for example), *quality* of experiences and how one processes those experiences seem equally impactful. Experience in combination with *processing* of that experience (through internal self-reflection, informal discussions with colleagues, or other means) and integrating what one has learned into his/her practice constitutes professional development (as described in Zahm, *in press*). Thus although genetic counselors with 30 years of experience are likely to have grown more professionally, depending on multiple factors, including their experiences and integration of these experiences into their professional lives, it is possible that they may not have developed as fully as a practitioner with 20 years of experience, for example. The results of this study suggest that genetic counselors develop in varied, productive, meaningful ways over the course of their careers, although research is needed to clarify what constitutes "optimal development."

While the preceding paragraphs introduce the model and provide an overview of how various parts work together as a whole, the following subsections provide more detail on each of the three primary influences on professional development (the three circles, or CQR themes) by answering the major research questions of this study.

Theme 1: Being A Clinician: Genetic Counselors' Evolving Perceptions of and Relationships to Their Clinical Work. This theme explores how genetic counselors' clinical work affects their professional development and growth over the course of their career. The qualitative and quantitative data clearly indicated how impactful clinical work was on genetic counselors' professional development, and at every experience level. By design, the inclusion criteria for the study required genetic counselors to be currently working in direct service at least half time or have done so during the past two years (or be a genetic counseling program director), so it was expected that participants would consider their clinical experiences influential. Consistent with expectations, participants at all three experience levels rated "experience in genetic counseling with patients" as the top influence on professional development out of Orlinsky et al.'s (2005) fifteen influences. Further, they described ways in which their clinical experiences—and subsequent reflections on and integration of those experiences into their professional lives—directly contributed to their growth.

Figure 2 shows a "zoomed in" version of Theme 1 from Figure 1 above. The central circle (theme) "Being a Clinician: Genetic Counselors' Evolving Perceptions of and Relationships to Their Clinical Work" is comprised of five squares (domains). Next to each square are bulleted lists of even more nuanced, specific professional development influences (representing the categories for each domain). Consistent with CQR (cf. Gelso,

Figure 21. Theme 1, Including Corresponding Domains and Categories



* Bolded items represent "general" or "typical" categories (≥50% of total sample)

Hill, Rochlen, & Zack (1999)) influences rated "general" (90% of participants endorsing it) or "typical" (50-90% of participants endorsing it) by the entire sample are in bold, and all bulleted points (categories) are listed in decreasing order of frequency next to their corresponding domain.

Components of Helping. Given that genetic counseling is a helping profession and helping is at the core of what genetic counselors see themselves doing, it was not surprising that participants conceptualized "helping" as an important contributor to their clinical work and to their professional development overall. Consistent with the Reciprocal-Engagement Model of genetic counseling practice (McCarthy Veach, LeRoy, & Bartels, 2007), participants identified three primary ways in which they view themselves as helpers with patients: providing information and resources, providing emotional support, and facilitating autonomous and informed decision making. Since responses could be multiply coded, most participants described "helping" as comprising two of these three categories. While some participants denied that their views or definitions of helping have changed during their career, many did describe changes including broadening their definition, or adjusting their definition to include more attention to psychosocial components.

Variation on 'Helping' by Experience Level. Seasoned participants tended to acknowledge that their definitions and views of helping had changed. Many described substantial changes, such as becoming more "realistic" and less "idealistic" over time and with experience, for example, acknowledging and feeling less anxious about the limitations of their perceived ability to be helpful. They seemed to "let go" of beliefs held

by some of the novice practitioners regarding the fantasy of being a “rescuer” or being able to help all patients with what they were taught in graduate school.

Many novice practitioners denied any changes in their views of “helping” over time. Several novice practitioners described changes in their views of helping over time and with experience. However, their changes differ from those of the seasoned practitioners in their seemingly greater focus on content. For example, some novices commented about helping in ways that they previously did not know existed. Similar to some of experienced and seasoned professionals, a few novice practitioners described a shift away their own agenda toward a greater focus on specific, individualized, needs of each patient.

These changes are expected and are consistent with related literature (Ronnestad & Skovholt, 2003; Skovholt & Ronnestad, 1992a). Given seasoned practitioners’ years of “successes” and “failures” with patients, it is unsurprising that they revised their definition of helping, but even more substantially, revised their expectations of themselves. They demonstrated increased awareness of the limitations and parameters of how they (as individuals) and the genetic counseling and medical fields (as a whole) can actually be helpful to the patients they serve.

These data also suggest that genetic counselor professionals encounter a relatively unique professional development challenge compared to most therapists. Genetic counselors often see patients short-term, not uncommonly for only one session. Single-session psychotherapy is an atypical mode of primary treatment. Therefore, genetic counselors often face additional challenges of conveying highly complex and distressing information, and they must build rapport quickly without options for multiple follow-ups,

or for an ongoing helping relationship. Thus, they appear to be pressed to "do more with less." It is unclear at this point the extent to which such pressure influences their professional development.

"Success" defined and identified. In this domain, participants of all experience levels described various "ways of knowing" or assessing whether they have been successful with patients. They described external, explicit indicators ("the patient sent me a thank you note") as well as more intuitive indicators (a "gut feeling"). Interestingly, the experienced group of participants emphasized more concrete indicators of success than the other two groups. Nine of twelve endorsed patients' "direct communication of success" while only 1/12 endorsed "gut feeling." This pattern could be unique to the sample, or it could indicate that at this phase of their careers, genetic counselors emphasize and seek direct feedback from patients, rather than relying on their own subjective evaluation. It should be noted that a patient thank you, particularly in the immediate present, can certainly be powerful, well-deserved, and indicate that a person feels "helped" or that the counseling felt "successful." However, as the genetic counseling outcome literature suggests (cf. Hodgson & Spriggs, 2005; Kasparian, Wakefield, & Meiser, 2007; Meiser, Dunn, Dixon, & Powell, 2005), patients' subjective evaluation of the counselor or their expressions of thanks, may not always be the best (or certainly should not be the only) indicator of success.

Challenging and/or memorable work with patients and effects on professional development. Three domains: Difficult issues in sessions/patient challenges, Memorable patients, and Perceived effects of memorable patients on clinical work, encapsulate to a great extent the crux of this study which is how one grows from and in one's clinical

work. The combination of these three domains illustrate genetic counselors' work with patients (established elsewhere in this chapter as a key professional development influence) and how they have learned from and applied that work to their future practice. These findings are consistent with literature on reflective practice (Skovholt, 2001; Zahm, *in press*), suggesting that professional growth best occurs when experience is accompanied by some form(s) of reflective practice in order to translate information (from experiences) into professional change As Skovholt (2001) writes, "The practitioner can have years of experience—rich, textured, illuminating, practice-changing professional experience in a helping, teaching, or health occupation. Or a person can have one year of experience repeated over and over" (p. 27). This discrepancy may occur because one has not heard and integrated feedback (from others and/or from oneself) to effectively "transform practice." According to Zahm (*in press*), if genetic counselors fail to reflect upon their experiences and apply the results of such reflection to make changes in their conceptual frameworks and behaviors, they have not necessarily grown or developed professionally. They are essentially "*running in place."*

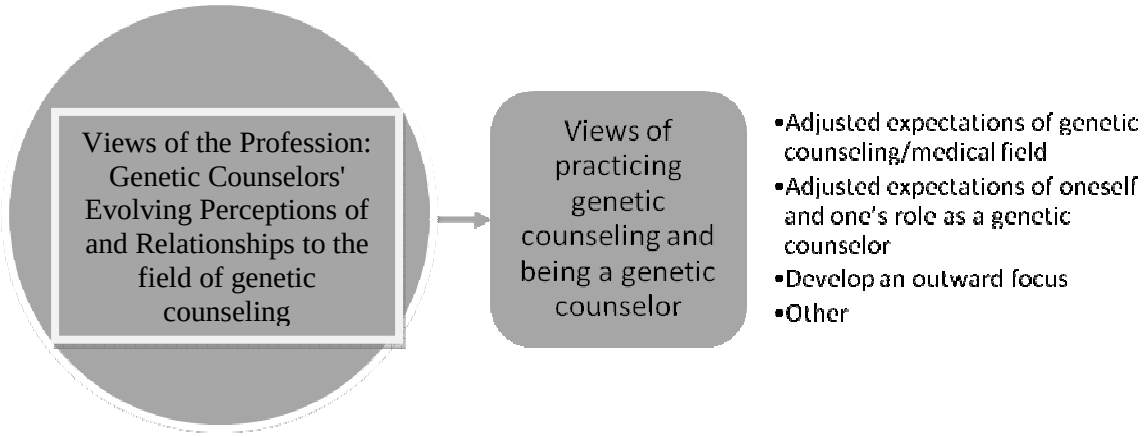
Overall, genetic counselors reported learning profound lessons from patients and have intense experiences with these patients. Some of the "memorable patients" narratives were gut-wrenching (holding a patient's hand while her pregnancy was terminated, telling a mother that three of her toddler age sons have muscular dystrophy, etc.), and all were powerful. Other narratives illustrated participants' fear, tears, or judgments about whether they were effective genetic counselors. Some seasoned practitioners described experiences involving personal guilt or regret, which, in combination with other factors, might indicate burnout or compassion fatigue. All

described meaningful experiences but those with more personal and professional experience seemed to have more ways of connecting these experiences to one another and to their later work. Therefore, over time and with accumulated experience, the participants displayed a depth of understanding that, by definition, is not yet present for novice practitioners.

Theme 2: Views of the Profession: Genetic Counselors' Evolving Perceptions of and Relationships to the Field Itself.

Theme 2 is represented in Figure 3 as a close-up version of the second circle in Figure 1. As expected, genetic counselors had much to say about the field as a whole, and their comments varied widely by experience level. Comments variously concerned views about changes in the profession, extent to which one feels connected to/involved with professional organizations, and attitudes about the profession's future. Seasoned practitioners commented on the many changes that have occurred in the field since they began training and practicing, such as technology, genetic information, the increased number of practicing genetic counselors, growth of the National Society of Genetic Counselors (NSGC) and other professional organizations, etc. Generally, novice practitioners talked less about the importance of and involvement in national organizations than did experienced and seasoned practitioners, an understandable difference, given their respective amounts of time in the field. One experienced practitioner described feeling disconnected from NSGC and others did not mention being involved in that or similar organizations.

Figure 22. Theme 2, Including Corresponding Domain and Categories



Provocatively, a fair number of genetic counselors described a "glass ceiling" vis-à-vis their professional development opportunities. Others welcomed creative opportunities such as pursuing business models within genetic counseling. Regarding the profession as a whole, hope for its future varied widely. Some described the "glass ceiling" for their own individual opportunities, and some of those participants also described a "glass ceiling" for the field of genetic counseling, expressing concern for its viability during such times of medical change. Others described hope for the future and excitement about changes. This mixture of hope was expressed relatively evenly across experience levels, suggesting that it was related more to attitude and approach rather than to years of experience.

Theme 3: Being a Clinician in the Profession: Genetic Counselors' Evolving Perceptions of and Relationships to Their Professional Identity.

Theme 3 is represented in Figure 4, as a close-up version of the third circle (theme) in Figure 1. Relatedly, Table 6 contains each of Ronnestad and Skovholt's (2003) fourteen themes extracted from their longitudinal study of counselors/therapists throughout their careers and an indication of this researcher's subjective evaluation of the extent to which the present findings are consistent with each theme. Overall, many of the results are well-reflected in Ronnestad and Skovholt's (2003) fourteen themes, suggesting that similar professional development processes occur across the two counseling fields. Seven of the 14 themes are extremely consistent or very

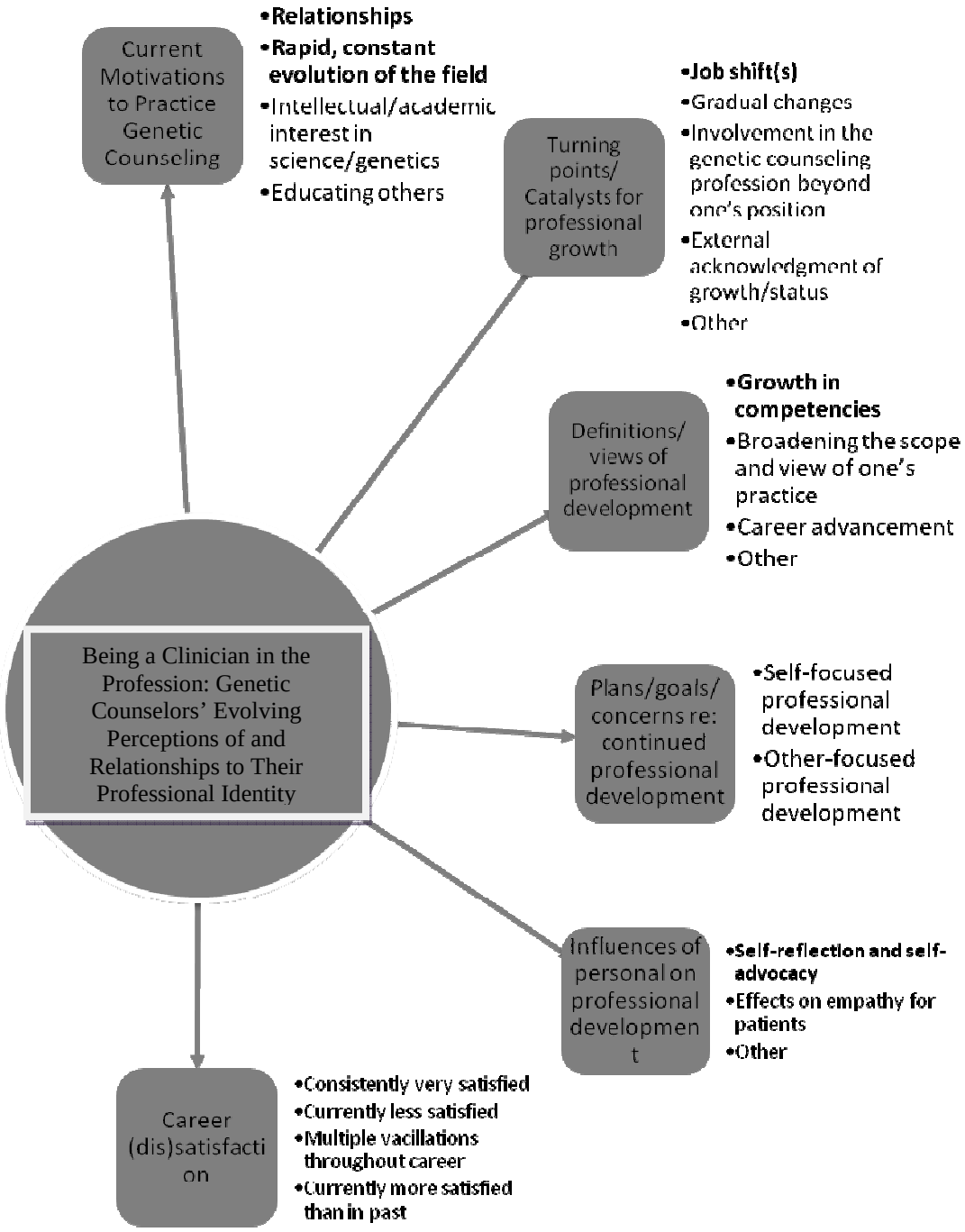


Figure 23. Theme 3, Including Corresponding Domains and Categories
*Bolded items represent "general" or "typical" categories (>50% of total sample).

Table 6. Comparison of Genetic Counselor Professional Development Findings to Ronnestad and Skovholt's (2003) Fourteen Themes of Therapist/Counselor Development

Consistency of Themes With Genetic Counselor Findings	Theme
Extremely consistent (High)	*Many beginning practitioners experience much anxiety in their professional work. Over time, anxiety is mastered by most. (Theme 8)*
Extremely consistent (High)	*Clients serve as a major source of influence and serve as primary teachers. (Theme 9)*
Extremely consistent (High)	*Interpersonal sources of influence propel professional development more than "impersonal" sources of influence. (Theme 11)*
Extremely consistent (High)	*Extensive experience with suffering contributes to heightened recognition, acceptance, and appreciation of human variability. (Theme 13)*
Very consistent (Medium/High)	*Professional development involves an increasing higher order integration of the professional self and the personal self. (Theme 1)*
Very consistent (Medium/High)	*Professional development is a long, slow, continuous process that can also be erratic. (Theme 6)*
Very consistent (Medium/High)	*Professional development is a life-long process. (Theme 7)*
Very consistent (Medium/High)	*Personal life influences professional functioning and development throughout the professional life span. (Theme 10)*
Moderately consistent (Medium)	*Continuous reflection is a prerequisite for optimal learning and professional development at all levels of experience. (Theme 3)*
Moderately consistent (Medium)	*An intense commitment to learn propels the developmental process. (Theme 4)*
Moderately consistent (Medium)	*New members of the field view professional elders and graduate training with strong affective reactions. (Theme 12)*
Minimally consistent (Low)	*The focus of functioning shifts dramatically over time. From internal to external to internal. (Theme 2)*
Minimally consistent (Low)	*The cognitive map changes: beginning practitioners rely on external expertise, seasoned practitioners rely on internal expertise. (Theme 5)*
Minimally consistent (Low)	*For the practitioner there is a realignment from self as hero to client as hero. (Theme 14)*

Source: Ronnestad and Skovholt (2003), pp. 27-38.

consistent with the present findings, three are moderately consistent, and three are minimally consistent. The most salient themes are elaborated upon briefly throughout the following session that focuses on Theme 3. This is not to suggest that Skovholt & Ronnestad's (1992a) themes are only relevant for Theme 3 (indeed, they span all three themes), but rather that they provide a useful framework for the discussion herein.

Career satisfaction and motivations. As anticipated in this self-selected sample of genetic counselors, overall career satisfaction was strong. Many experienced and seasoned practitioners acknowledged they had thought about leaving the field, but for many it was not a serious consideration. Interestingly, substantially more novice counselors described consistently high satisfaction with their career (8/10, as compared to 2/12 experienced and 5/12 seasoned counselors). Across the sample a few participants described multiple vacillations throughout their career, and only a few experienced and seasoned counselors were less satisfied now. Without current longitudinal data, no conclusions can yet be drawn. One possible explanation is that there are cohort effects, particularly for the more dissatisfied experienced practitioners. Alternatively, the participants' career satisfaction merely could reflect the length of time they have been practicing in the field (e.g., the longer one is in a field, the more opportunities there are for both satisfying and dissatisfying experiences). Also, the findings that a number of participants considered leaving the field but elected to stay, and that some counselors experience vacillations in career satisfaction are consistent with Dawis and Lofquist's (1984) Theory of Work Adjustment, which posits that "satisfaction is predicted from the correspondence between an individual's values and the rewards available in the environment…" (cited in Swanson & Fouad, 1999, p. 65). They further argue that a range

of “tolerable discorrespondence” can exist between one’s values, needs, and the job’s “rewards” (p. 66). Thus, some fluctuation in career satisfaction would be expected, and they would not necessarily lead to leaving one’s career. Relatedly, Carless and Bernath (2007) posit that job dissatisfaction is a key predictor of considering early departure from the career/field of psychology. They write, “Feeling unhappy and dissatisfied in one’s current job is likely to lead to thoughts about changing career” (p. 194).[xiv]

Conceptualizing professional development. At this point it is worth revisiting Elman, Illfelder-Kaye, & Robiner’s (2005) definition of professional development for psychologists used in this study:

> “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).

Participants’ responses throughout the interview, including their definitions and views of professional development, are consistent with the above definition, although their collated answers to the question asking them to define professional development likely would not have yielded such a specific, thorough definition. Participants across all three experience levels referred to professional development as relating to skill development (most common), broadening the scope and view of one’s practice, and career advancement.

Furthermore, other findings suggest that their definitions probably would include additional dimensions that they did not explicitly connect to their definitions. For

instance, as one can see through comparison of the present results to Ronnestad and Skovholt's (2003) model and Orlinsky et al.'s (2005) model, the "social/contextual dimension" and interpersonal components of professional development have tremendous influence on genetic counselors' professional development. Interestingly, across experience levels the participants rated as highly important Orlinsky et al. (2005) influences that they did not necessarily include in their definition of professional development (working with colleagues, institutional conditions of one's practice, etc.). Relatedly, they ranked some influences fairly low in importance they included in their definitions of professional development (taking courses or seminars). This discrepancy between their spoken "definition" and their "lived experience" underscores the importance of developing a nuanced definition of genetic counselor professional development.

Examination of Orlinsky et al. (2005) influences on professional development. As has been discussed, the entirety of Orlinsky et al.'s (2005) model was beyond the scope of this study, given the length and quantity of quantitative data they collected and the lack of published analyses of their qualitative findings. Additional research needs to be conducted with genetic counselors before detailed and definitive conclusions can be drawn about the "fit" of Orlinsky's model. However, given the salience and power of the Orlinsky study, some comparisons are made about the 15 sources of influence on professional development, adapted from the DPCCQ (Orlinsky et al., 2005).

Unfortunately, design issues limit interpretation of the genetic counselors' ratings: 1) the absence of a "not applicable" or "zero" option, as without either of those options, the current numbers do not differentiate between lack of participation in an activity and

lack of influence of that activity. That is, a rating of "1" could indicate either that the participant did not participate in that professional development activity (such as being a supervisor or being a client/patient in counseling or genetic counseling, for example), or that s/he participated but did not find that activity influential on his/her professional development—two disparate outcomes. 2) Without using positive or negative ratings (such as –4 to +4), it is unclear whether participants found each influence to positively or negatively influence their professional development. Some participants commented qualitatively about positive or negative influence when responding to the interviewer's questions, but since not everyone did so, no conclusions about directionality of influence can be drawn at this time.

As illustrated in Table 5 in Chapter 4, for both the psychotherapists in Orlinsky's sample and the genetic counselors, "Experiences with Patients" received the highest rating. Given that genetic counseling practice involves close interpersonal interaction on an ongoing basis (with patients, treatment teams, colleagues), this finding is expected. Another possible explanation is that individuals who are interpersonally-oriented and consider interpersonal influences impactful are drawn to "helping professions" such as genetic counseling.

Both samples' ratings of "informal case discussions" are among their top five professional development influences, which again underscores the power of interpersonal experiences on professional development and the respect practitioners have for each others' wisdom and perspectives. However, "observing other [genetic] counselors" was in the bottom five professional development influences for both genetic counselors and psychotherapists. This researcher's speculation, based on genetic counselors' comments,

is that few opportunities exist for postgraduate observation of other practitioners (as opposed to viewing the activity as not influential).

"How" genetic counselor professional development occurs. Genetic counselors in the present sample described four different types of turning points or catalysts for professional growth throughout their career, with job shift(s) being the most common. Of course, some job shift(s) may also represent the influence of personal life matters (e.g., relocation for one's partner, changing to part-time employment for family or financial reasons, etc.). Other important influences across experience levels included involvement in the profession of genetic counseling beyond one's position (such as through NSGC or other organizations), educating the medical profession or community about genetic counseling, and, particularly for novice genetic counselors, external acknowledgement of one's growth/status. For several of the novice therapists, this marker was "passing boards." Also, "gradual changes" were endorsed as a form of professional development by a large number of genetic counselors, suggesting that incremental growth occurs, perhaps undetected, until realized through retrospection.

Three of Ronnestad and Skovholt's (2003) themes provide a framework for discussing some of the ways that professional development seems to occur for genetic counselors. First, *"Professional development is a life-long process." (SR Theme 7).* While this theme may seem obvious, participants across experience levels provided evidence that professional development truly spans one's career. Indeed, while some seasoned practitioners described plans for and questions about retirement, they also seemed unusually motivated for professional development. Contrary to what might be expected, several seasoned practitioners described wanting to develop new skills

(teaching, research, etc.), new areas of specialty (such as earning a PhD or additional graduate degree), or wanting to grow the profession in new ways (advocating for billing/licensure). One individual described wanting to earn a PhD but feared giving up her current flexible job and the social aspects of her job in order to be more isolated in writing a dissertation. Contrastingly, several novice practitioners seemed less motivated to seek out professional development opportunities. There could be multiple reasons for this discrepancy, including seasoned professionals having a better understanding of existing opportunities, wanting to be more productive (related to Erikson's notion of generativity vs. stagnation), and/or novices being more likely to have "additive" experiences from their daily clinical work since they have more limited experience.

Second,"Professional development is a long, slow, continuous process that can also be erratic." (SR Theme 6). Importantly, this theme helps capture the variety and nebulous complexity in each individual's professional development processes. For example, multiple participants described relocating to take their first position based on family or relational circumstances, and then cultivating a specialty there. This notion is consistent with Krumboltz's notion of "happenstance" (Krumboltz, 1998; Krumboltz & Levin, 2004) whereby chance events impact one's career development, depending on the openness and attitude with which one approaches these events. Some of these turning points were not necessarily major or identifiable at the time (unlike McCarthy Veach et al., 2002 b,c), but some were identifiable retrospectively[xv]. Experienced professionals in this sample did describe less current career satisfaction and more interest in research than either the novice or seasoned professionals, thus pointing out possible unique needs during this middle stage of their career, while some described feeling more settled into

the profession, whereas also for some, more restless. Ronnestad and Skovholt (2003) provide a fitting description:

> "Professional development is generally experienced as a continual increase in a sense of competence and mastery. Reports indicate that this process may at any point in time be barely noticeable, but appear retrospectively as substantial. Conversely, over the course of the career, some may experience the developmental process as an intense change process, perhaps initiated by a specific critical incidence or by transforming life events or epiphanies possibly followed by a period of slow change. Changes may be conceptualized as recycling loops in which themes such as lack of confidence in one's ability may emerge repeatedly in one's career as new challenges are encountered" (p. 32).

Third, addressing the "how" of professional development: *"Professional development involves an increasing higher order integration of the professional self and the personal self" (SR Theme 1).* Consistent with Ronnestad and Skovholt's theme, the genetic counselors described integrating more of themselves and their personal values and style into their work with patients. While Ronnestad and Skovholt (2003) particularly focus on "theoretical orientation" of counselors/therapists, this concept is less relevant for genetic counselors. However, multiple genetic counselors in the experienced and seasoned experience levels mentioned their "changed approach" to genetic counseling with time and experience, particularly related to directiveness and nondirectiveness. While focusing less on theoretical approaches, genetic counselors' practice focuses more on constantly integrating new genetic knowledge into sessions, and doing so in ways that are consistent with one's own values and personal style and those of the patient..

The data suggest that the variability among counselors' approaches to genetic counseling involve their stance on nondirectiveness, particularly for experienced and seasoned professionals[xvi]. Consistent with Ronnestad and Skovholt (2003)'s description,

genetic counselors do develop "an increased ability to differentiate responsibilities and to know what oneself and the [patient] contribute to the working relationship" (p. 28). In this study, those results emerged through genetic counselors demonstrating an understanding of how they can help without having a diagnosis or "all of the answers" and by focusing on teaching patients skills, and letting go of not always being able to help. Finally the rating of importance of "Experiences in personal life" seemed to be slightly higher for each increasing experience level (although this is speculative, given the qualitative nature of the findings).

Relatedly, as found in the domain "Influences of personal on professional development," genetic counselors reported that experiences in their personal lives affected their professional development in more deeply understanding themselves and their reactions with patients and in their work in general (self-reflection and self-advocacy). These growth experiences included self-care and boundary-setting. Consistent with expectations, learning to create a work-life balance was also important for genetic counselors, and was influenced by such events as becoming a parent, or the dissolution of a meaningful relationship, for example. The other primary effect of personal life on professional life was deepened empathy for patients, such as related to difficult decision-making, grief/loss, and ambiguity, for example[xvii].

Other salient comparisons to Skovholt & Ronnestad's (1992 / 2003) model. *"Many beginning practitioners experience much anxiety in their professional work. Over time, anxiety is mastered by most" (SR Theme 8).* As expected, multiple practitioners across the experience levels commented on anxiety, including decreases in anxiety and increased confidence. Overall, nearly all of the participants described feeling more

confident since graduation and gaining experience. However, retrospective views on how long it takes to develop confidence and decrease anxiety varied by experience level. Seasoned practitioners tended to report longer periods of initial confidence-building and anxiety-reduction. The anxiety participants disclosed manifested itself in different forms at various stages of their experience and interestingly there was less mention about clinical anxiety and more reports of interpersonal or professional role anxiety. For example, some described anxiety about how to decide on switching positions or specialties, or about staying at the top of one's practice as one ages.

"*[Patients] serve as a major source of influence and serve as primary teachers." (Theme 9).* The present data suggest that the influence of patients on genetic counselors' professional development cannot be overstated. It was clear that the participants cared deeply about their patients and learned from them in multiple ways, including deepened empathy, increased patience, and specific changes in their clinical work. Further, this theme is indicated quantitatively by the participants' ratings of Orlinsky's professional development influences. Across all three experience levels participants rated patients as the most important influence. Clearly, relationships and interpersonal influences are integral to genetic counselors' growth. Based on their comments, this researcher surmised that the influences of patients as teachers was largely positive and meaningful, even if the interactions through which the growth occurred were difficult at the time (patient anger, provision of difficult genetic test results, etc.).

"*Interpersonal sources of influence propel professional development more than 'impersonal' sources of influence." (SR Theme 11).* Participants within and across each experience level rated this professional development influence as very important for their

professional development. Nearly every participant described respect for her or his genetic counselor colleagues; those who worked with other genetic counselors appreciated them and those who worked without them seemed to want them. Some described seeking out intentional connections with other genetic counselors through peer group supervision, informal consults, happy hours, and regional and national meetings, for example. Although one novice practitioner described frustration with current genetic counseling colleagues for misrepresenting her (and seeming "whiny"), the data show overwhelming evidence for the value of one's genetic counseling colleagues. In contrast, opinions were more mixed about interpersonal experience with other medical professionals. While "institutional conditions of one's practice" was also rated highly, relational components can comprise that as well (working with other medical professionals, the level of respect one experiences from colleagues and patients as a genetic counselor, etc.).

"*Extensive experience with suffering contributes to heightened recognition, acceptance, and appreciation of human variability" (Theme 13)*. Genetic counselors, arguably moreso than many mental health counselors, experience patients' suffering in acute ways. Consistent with the literature (cf. Abrams & Kessler, 2002; Resta, 2002), genetic counselors at all experience levels in this study commented on their unique role in providing "bad news" to patients in ways that other mental health counselors do not often have to do. Some genetic counselors "take on" responsibility for how their patients feel and their (and the field's) inability to always provide answers or cures. For example, one novice practitioner described "helping" as **"**to help them navigate the emotional roller coaster that I think **we** put a lot of families on. And I think that's been a different roller

coaster depending on the condition they're in. So for sure now in pediatrics, I feel like families come to **us** with a lot of hope that we'll provide answers and most of the time **we can't**" (emphases author's). A seasoned professional commented, "I think to be good at genetic counseling, you have to be willing to be not liked…I was more willing to be the bearer of bad news and…people appreciate people who give bad news in a sensitive and kind way and try to help them through it. And you know, they might not like you then, but then they end up being very thankful later." However, it is unclear exactly how being the "bearer of bad news" affected the genetic counselor sample as a whole. Furthermore, it is unknown how it affects particular individuals in the genetic counselor population (e.g., to what extent and for whom does bad news provision contribute to increased risk for burnout and compassion fatigue, as has begun to be discussed in Benoit et al., 2007 and Udipi et al., 2008). Another interpretation of "suffering" is how genetic counselors experience suffering in their own lives and translate that into their practice with patients (again relating to the intersections of personal and professional lives. Kessler (1992) discusses the complexities of suffering, including how countertransference can emerge.

Unlike the participants in Ronnestad and Skovholt's study (2003) related to this theme, genetic counselors denied finding experiences in their own therapy or counseling to be extremely powerful (if present at all). It is unclear whether these participants did not seek counseling, therapy, or genetic counseling as patients, whether they did not want to disclose this to the interviewer, or whether they did not find their experiences particularly powerful. One participant described experiencing infertility and found that it helped increase the depth of her empathy for patients, "[My experiences with infertility] made me aware of the difficulties and the emotional mess of pregnancy and I think it made me

a whole lot better at talking to pregnant women." However, she did not specifically describe seeking genetic counseling, nor did many of the participants. Extant literature discussed in this study (cf. Anonymous, 2008; Matloff, 2006; several articles in the McCarthy Veach, Bartels, & LeRoy, 2002 b,c series; Peters, McCarthy Veach, Ward, & LeRoy, 2004) does a more thorough job of providing genetic counselors' explicit experiences with being patients or clients in a counseling setting. While a self-selected sample, those authors found meaning in their traumatic experiences and growth in the form of deepened empathy, patience, and understanding).

Three of the fourteen themes seem only minimally consistent with the present findings.. "*The focus of functioning shifts dramatically over time. From internal to external to internal" (SR Theme 2)*; *The cognitive map changes: beginning practitioners rely on external expertise, seasoned practitioners rely on internal expertise" (SR Theme 5*); and "*For the practitioner there is a realignment from self as hero to [patient] as hero" (SR Theme 14).* There are several possible explanations, including Skovholt and Ronnestad's attention to counselors' "theoretical orientation," which is less applicable for genetic counselors, as discussed previously. Other differences involve the requirement that genetic counselors keep up with an incessant and rapid growth of genetic information, available tests, and related technologies, an issue that is *not* adequately accounted for by the Ronnestad and Skovholt (2003) model.

The demands of keeping up with evolving genetic information was referred to by many genetic counselors across the experience levels, and it also emerged as a primary motivation to practice genetic counseling. It is noteworthy that several seasoned practitioners described fears about falling behind their more newly trained colleagues,

and wariness about expending energy to learn such new information. Unlike the literature counselors/therapists in general mental health counseling must maintain mastery of[xviii], the landscape of genetic information and available technology has drastically changed over the course of seasoned practitioners' careers. Multiple seasoned practitioners commented on how the field of genetic counseling is "completely different now" than it was when they began, particularly referencing such technological advances as the internet (which provides additional resources, but also serves as a source of frustration for some when patients present with misinformation and misconceptions from the internet, for example), increased demands of insurance paperwork, and multiple specific genetic advances that have changed the nature of their jobs**.** While some therapists work in private practice or other settings where health insurance is used, genetic counselors seemed to describe feeling pressured to bill for each minute but feel that insurance companies do not pay for them to "build rapport" in a way that seems qualitatively different than mental health counselors' experience.

A final key difference between genetic counseling and Skovholt and Ronnestad's model discussed elsewhere in the chapter is the parallel process evident between the field of genetic counseling throughout its "career lifespan." Genetic counselors (especially experienced and seasoned counselors) commented on how different the profession is, the "growing pains" of finding their place and voice in the medical profession, and discovering the similarities and differences related to the fields. Some of these notions form a foundation for McCarthy Veach et al.'s (2007) Reciprocal-Engagement Model of genetic counseling.

Study Strengths

This is the first study to systematically and comprehensively investigate genetic counselor professional development. Another strength is the sample of genetic counselors from all experience levels (Range: .75 years to 31 years) and all NSGC regions. As others note (cf. Patton, 2002), qualitative methodology is a particularly appropriate exploratory method when little related research exists. The resulting findings do allow for some preliminary conclusions about genetic counselor professional development and areas for future research.

Use of a cross-disciplinary approach, applying counseling psychology literature (Orlinsky et al., 2005; Skovholt & Ronnestad, 1992 / 2003), to genetic counseling, provided some theoretical grounding of the design. The cross-sectional design allowed for some comparisons of results across experience levels. In order to meaningfully assess professional development across the professional lifespan, a representative sample of experience levels was essential.

Further, this study is the first part of a longitudinal research design. Each of the thirty-four participants consented to be contacted in the future about their on-going professional development experiences (and a University of Minnesota Institutional Review Board approved such maintenance of records). Longitudinal data concerning each individual's professional development experiences over time will yield critical information. This methodology is similar to Skovholt and Ronnestad's (1992/2003), who used longitudinal data to create their comprehensive model of professional development.

Another strength of the study is that the telephone interview format may have allowed for more candid responses, given the relative anonymity of a phone interview

versus in-person interviews. To thoroughly and meaningfully assess professional development experiences—particularly how personal life and professional life mutually influence one another—openness and candidness are of paramount importance.

Finally, in the modified CQR analysis, it was determined that of the 47 total categories (for the entire sample, $N = 34$), 11 were coded as "general" or "typical," indicating that they were common to at least 50% of the participants. So, 23.4% (11/47) were considered common to the entire sample. Breaking the data down by experience level, of the 141 total categories (47 categories x 3 experience levels), 44 were coded as "general" or "typical." Thus, 31.2% (44/141) of the categories were considered common to most of the sample. These numbers suggest that the codings do accurately reflect the preferences of the entire sample and each experience level.

Study Limitations

While the sample of thirty-four participants purposefully mirrors the genetic counseling population in North America in multiple ways, the participants were primarily females who identified as European-American. A more thorough picture of the experiences of genetic counselors identifying as minorities (racial/ethnic, sexual, etc.) is important.

It was this interviewer's impression that all participants seemed to be clinicians who cared deeply about their work and their patients; they spoke respectfully of their patients, sometimes mentioning with awe the kinds of decisions their patients have to make. A possible limitation of this study is that the individuals who participated might be more optimally developed (with those burning out or struggling in the field not wanting or being able to participate in this study). However, it is this researcher's impression that

while most participants seemed motivated and committed to their work as genetic counselors, some burnout, compassion fatigue, and disillusionment with the field emerged as well. For example, several participants disclosed that the intensity of their recent clinical work with patients contributed to recent job changes with a less clinical focus; and a number decried the perceived dearth of professional development and career growth opportunities in genetic counseling.

Relatedly, it is unclear to what extent participants represent the larger population of genetic counselors, particularly regarding their interest in and motivation to discuss professional development. That is, those who volunteered to participate could have been particularly satisfied (or dissatisfied) with their professional development experiences, could be more interested in the topic of professional development and thus seek out more professional development activities than is typical of genetic counselors, or in other ways differ from the population. Qualitative data are not intended to be generalized to the population of interest. Therefore, any conclusions drawn from the data are speculative and must be validated, expanded upon, or refuted in future investigations.

The interview protocol was informed by two major practitioner development models in the field of counseling psychology. Some questions from Orlinsky et al.'s (2005) DPCCQ were included verbatim and others slightly modified to fit for genetic counselors, but the results cannot be compared to their qualitative results because Orlinsky et al. (2005) only published results from the quantitative portions of their study (to date the only known qualitative analysis being an unpublished thesis by Helland, 2006, and advised by Helge Ronnestad). Finally, for questions related to personal experiences and their influences, it appeared that some participants regarded crucial

moments or major events as all that mattered, rather than reflecting upon how everyday aspects of life may have a cumulative effect. Thus, better clarification of the intention of the question and encouraging reflection upon major "turning points" in one's growth as well as upon seemingly mundane life details, might have yielded different results. This limitation exists across all three experience levels, but it seemed that those with less experience (who, in most cases, were younger) tended to downplay or were less clear about how personal life has affected their professional development.

Research Recommendations

Research calls on the topic of genetic counselor professional development needs to be based on an operational definition of the construct. A standard definition is not simply a matter of preference or luxury; indeed, the lack of a standard definition presents limitations to interpreting, generalizing, replicating, and comparing results across studies (Heppner, Kivlighan, & Wampold, 1999)[xix]. Both qualitative and quantitative methods are necessary and relevant as they will yield data invaluable for cultivating a model of professional development for genetic counselors. Studies of positive development as well as further investigations of compassion fatigue, burnout, and other risk factors for "negative" development are warranted to determine the "full picture" of development processes. Research in counseling psychology (e.g., Orlinsky et al., 2005; Skovholt & Ronnestad, 1992/2003) demonstrates that a developmental model is built upon many years and many prior, related studies. Clearly, a developmental model for genetic counseling will also take time to become established.[xx]

The present study yielded three themes that show promise as a foundation for a model of genetic counselor professional development. These themes are consistent with

prior literature on genetic counselor development (e.g., Abrams & Kessler, 2002; McCarthy Veach et al., 2002b,c; Resta, 2002). Three sources offer suitable concepts and methodologies for further research on genetic counselors: prior literature on genetic counselors, the present findings, and the professional development literature in other counseling-related fields such as nursing (Bournes & Ferguson-Pare, 2007; Campbell, 2004; Marlow, Spratt, & Reilly, 2007; Nelms, 2005; Shen & Spouse, 2007) and teaching (Catapano, 2005; Farmer, Gerretsen, & Lassak, 2003; Melber & Cox-Petersen 2005).

Further study of professional development, particularly in the form of longitudinal research, is recommended. Longitudinal research findings would provide a fuller picture of professional development over time as genetic counselors grow and change, and it would either support or refute the present findings. Longitudinal research is particularly important as the most seasoned practitioners face decisions about retirement. Given that the first graduates to obtain professional degrees in genetic counseling have been in the field over thirty years and at least some of them are thinking about retirement (based on several participants disclosing as much to the interviewer), better understanding of their perspectives—both about their individual professional development experiences and about how they perceive the professional changes in the field of genetic counseling—would yield important information.

For genetic counselors at all levels of experience, issues such as personal and environmental factors that are predictive of career satisfaction, burnout, and compassion fatigue should be examined. Researchers should build on the work of Benoit et al. (2007) and Udipi et al. (2008) to better understand compassion fatigue and burnout. Research on buffers to negative development and premature closure for genetic counselors is also

indicated, including better understanding of “optimal development” and “negative development.” For example, studies could be done to assess the efficacy of peer group supervision, reflective practice, and balancing work/life roles (cf. Coster & Schwebel, 1997; Rupert & Scaletta Kent, 2007; Rupert, Stevanovic, & Hunley, 2009). Research of this type might help to reduce attrition and promote increased professional satisfaction. Relatedly, researching those who have left the field of genetic counseling for any reason (or switched from clinical to non-clinical positions), would also likely yield important information about career supports and barriers and help to prepare novice practitioners for future challenges and opportunities.

The present findings are exclusively self-reported, so future researchers should attempt triangulation of data, perhaps through studies involving supervisors, colleagues, cohort-members, and even patients in addition to genetic counselor self-reports. By design the present study excluded genetic counselors not currently or recently practicing in direct service with patients at least 20 hours per week. Also individuals who are underrepresented in the profession (ethnic minorities and males) had little to no representation in the present sample. In order to create a comprehensive and valid model of professional development, their experiences and perspectives—that may or may not vary substantially from the present participants—must be considered.

Additional studies using an adapted form of the Orlinsky et al.’s (2005) DPCCQ instrument with larger samples of genetic counselors would provide points of comparison with their large sample of international therapists, and yield a more quantitative and detailed picture of the components of professional development processes. As counseling psychology literature successfully points out, years of experience do not necessarily equal

counseling expertise (Jennings, Goh, Skovholt, Hanson, & Banerjee-Stevens, 2003; Jennings & Skovholt, 1999). What one does with those years of experience, how s/he processes and integrates experiences into her/his practice are more important than the number of experiences (Ronnestad & Skovholt, 2003). Thus, researching "master genetic counselors" (related to the counseling psychology work on "master therapists" [cf. Skovholt & Jennings, 2004)], would yield a better understanding of professional development. Likewise, much research is currently being done on the constructs of professional wisdom in counseling and related fields (cf. Baltes & Smith, 2008; Smythe, MacCulloch, & Charmley, 2009; Tiberius, 2008), another area for further study in genetic counseling. Finally, this investigator supports the recommendation of previous authors who have encouraged genetic counselors to "tell their stories" and share their experiences (cf. Anonymous, 2008) both in writing and with each other. The intersection of personal and professional life events likely would provide compelling information for other genetic counselors and for the field overall.

Practice and Training Implications

This study helps to lay a foundation of knowledge to better understand professional development processes of genetic counselors throughout their lifespan. Multiple practice implications exist on at least two levels: at the individual level (genetic counselors' own development) and at the profession level (helping best train and retain genetic counselors by preventing burnout and compassion fatigue, for example). At the individual level, the present findings offer some insight regarding what is "yet to come," allowing genetic counselors to anticipate the types of processes they might undergo and to view them as "normal," rather than feeling surprised and isolated. In particular they

might understand that: (1) Personal life can have powerful influences on professional development processes; (2) It is not uncommon to experience "ups and downs" in one's career satisfaction; (3) Professional development experiences can—and often are—gradual, noticed through processes of self-reflection; (4) Anxiety about conducting genetic counseling sessions early in one's career often dissipates over time; (5) With more experience, genetic counselors tend to focus less on their own "agendas" in session and more on empathizing with patients and dealing with patients needs in the moment; and (6) There are multiple ways in which practitioners grow by integrating their memorable with patients into their later clinical work. A better understanding of these processes may contribute to lessening their negative effect(s). The following sections, contain several data-driven recommendations.

Engage in and/or advocate for further research on genetic counselor professional development. Further information about professional development and encouragement of open discussion about such matters will help contribute to prevention of "negative development," such as stagnation, premature closure, compassion fatigue, and impairment.

Teach and discuss literature on professional development with students and supervisees. Educators and training programs should help students understand professional development and develop skills to promote their own growth (cf. Zahm, *in press*). If students/supervisees are cognizant of an applicable developmental model and know what to expect, some of their anxiety might be minimized, they might be more open, reflective, and willing to share "failures" with their supervisors/teachers (Ronnestad & Skovholt, 2003).

Discuss professional development with colleagues. The very act of discussing professional development may constitute a form of professional development. Multiple participants expressed gratitude for a study that focuses on genetic counselor professional development, as they felt a discussion of such absent or incomplete. Additionally, multiple participants decried what they experienced to be a lack of professional development opportunities. Talking about professional development may lead to innovative ways to create additional meaningful opportunities for oneself and for the profession as a whole. Broadening one's definition of "professional development" to include the influences discussed in this study is also an important part of conceptualizing and pursuing professional development opportunities. Further, genetic counselors should seek out professional development opportunities wherever possible and encourage one's workplace to support such endeavors.

Model, engage in, and emphasize reflective practice. Given this study's finding that years of experience do not necessarily equate with optimal professional development, finding time, having support, and understanding how to reflectively integrate one's experiences into one's practice is importance priority. Based on preliminary research on compassion fatigue and burnout (Benoit et al., 2007; Udipi et al., 2008), negative development might be buffered by practicing reflectively. Further, given the power of interpersonal influences on genetic counselor professional development, this type of reflective practice could occur individually and/or with colleagues, through such venues as consultation or peer group supervision (Zahm, *in press*; Zahm, McCarthy Veach, & LeRoy, 2008). Also, as Neufeldt (1999) points out, a supervisee needs to learn reflective practice by experiencing it as modeled by his/her supervisor.

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Appendix A: Email Invitation Sent to NSGC Listserv (Sent 1/28/08)

Dear Colleagues,

I am forwarding information below on a study looking at genetic counselor professional development on behalf of Kim Zahm, a counseling psychology doctoral student at the University of Minnesota. Your participation would be very much appreciated.

Thank you for your time and consideration.

Bonnie

Bonnie S. LeRoy, MS, CGC
Associate Professor and Director of the Graduate Program of Study in Genetic Counseling
Department of Genetics Cell Biology and Development and the
Institute of Human Genetics
University of Minnesota
MMC 485, 420 Delaware St., SE
Minneapolis, MN 55455
(612) 624-7193
e-mail: leroy001@umn.edu
Website: http://www.cbs.umn.edu/gc/index.html

From Graduate to Seasoned Practitioner: A Qualitative Investigation of Genetic Counselor Professional Development

Dear Genetic Counselor:

You are invited to participate in a research study of genetic counselor professional development. You were selected as a possible participant because you are a practicing genetic counselor and a member of the National Society of Genetic Counselors. We ask that you read the following information and contact us with any questions you may have before beginning the survey.

This study is being conducted by Kim Zahm, MA, graduate student in counseling psychology at the University of Minnesota, Department of Educational Psychology. She is under the supervision of Pat McCarthy Veach, Professor of Educational Psychology, and Bonnie LeRoy, Director of the Genetic Counseling program at the University of Minnesota.

The purpose of the study is to investigate how genetic counselors **at all points in their careers** develop professionally over their career lifespans. Since no systematic research has been done in this area, qualitative research will help lay the groundwork for future research about this topic.

The research questions are as follows:
1) What constitutes professional development for genetic counselors?
2) How do these professional development processes occur for genetic counselors?
3) What facilitates and/or impedes professional development?

Relevant background information: Many fields have published literature on the professional development processes of its practitioners, including education, nursing, and psychotherapy. This literature contributes in multiple ways to their respective fields, including impacting training programs, supervisors, supervisees, professionals, and the public they serve. More accurate and thorough understanding of the professional development processes is important for maximizing effective practitioner development and avoiding "negative" development such as burnout, compassion fatigue, or premature departure from the field. The proposed study will use these extant theoretical frameworks in related fields to inform its methods and specific interview questions.

If you agree to participate in this study, we would ask you to do the following:

- Complete the online survey that can be accessed through the link below. The survey includes demographic questions and will take approximately 5 minutes. ***http://www.surveymonkey.com/s.aspx?sm=jYribAa19nCC2Alek_2b8VOw_3d_3d***

- At the end of the online survey you will be given the option to be contacted for a 45 minute follow-up telephone interview. If you would be willing to participate in the telephone interview, you will be asked to provide your contact information so that we can arrange a time for the interview at your convenience.

This is a minimal risk study with the only perceived risk of your participation being the possible discomfort with discussing some of your challenging genetic counseling experiences.

There are no direct benefits to you for participating in this study.

The records of this study will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify you as a participant. Research records will be stored securely and only researchers will have access to the records. Identifying information will be removed from all returned surveys and data will be stored in a password protected computer. Follow up telephone interviews will be audiotaped and transcribed. All tapes will be destroyed after transcription and no identifiers will be kept.

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota. If you decide

to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is Kim Zahm. If you have questions, **you are encouraged** to contact her at the University of Minnesota, **651.398.9867**, **zahm0002@umn.edu.** Kim's advisor is Pat McCarthy Veach. She can be reached at 612-624-3580, veach001@umn.edu .

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

Survey Link:
http://www.surveymonkey.com/s.aspx?sm=jYribAa19nCC2Alek_2b8VOw_3d_3d

Thank you for your time and consideration.

Kim Zahm

Bonnie S. LeRoy

Patricia McCarthy Veach

Appendix B: Email Solicitation to NSGC Listserv, Second Request (sent 2/21/08)

Dear Colleagues,

This is a second posting requesting your participation in a study looking at genetic counselor professional development. I am posting this on behalf of Kim Zahm, a counseling psychology doctoral student at the University of Minnesota. If you have already responded to this invitation the first time, thank you so much for your participation. If not, your participation would be very much appreciated.

Thank you for your time and consideration.

Bonnie

Bonnie S. LeRoy, MS, CGC
Associate Professor and Director of the Graduate Program of Study in Genetic Counseling
Department of Genetics Cell Biology and Development and the
Institute of Human Genetics
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(612) 624-7193
e-mail: leroy001@umn.edu
Website: http://www.cbs.umn.edu/gc/index.html

From Graduate to Seasoned Practitioner: A Qualitative Investigation of Genetic Counselor Professional Development

Dear Genetic Counselor:

You are invited to participate in a research study of genetic counselor professional development. You were selected as a possible participant because you are a practicing genetic counselor and a member of the National Society of Genetic Counselors. We ask that you read the following information and contact us with any questions you may have before beginning the survey.

This study is being conducted by Kim Zahm, MA, graduate student in counseling psychology at the University of Minnesota, Department of Educational Psychology. She is under the supervision of Pat McCarthy Veach, Professor of Educational Psychology, and Bonnie LeRoy, Director of the Genetic Counseling program at the University of Minnesota.

The purpose of the study is to investigate how genetic counselors **at all points in their careers** develop professionally over their career lifespans. Since no systematic research has been done in this area, qualitative research will help lay the groundwork for future research about this topic.

The research questions are as follows:
1) What constitutes professional development for genetic counselors?
2) How do these professional development processes occur for genetic counselors?
3) What facilitates and/or impedes professional development?

Relevant background information: Many fields have published literature on the professional development processes of its practitioners, including education, nursing, and psychotherapy. This literature contributes in multiple ways to their respective fields, including impacting training programs, supervisors, supervisees, professionals, and the public they serve. More accurate and thorough understanding of the professional development processes is important for maximizing effective practitioner development and avoiding "negative" development such as burnout, compassion fatigue, or premature departure from the field. The proposed study will use these extant theoretical frameworks in related fields to inform its methods and specific interview questions.

If you agree to participate in this study, we would ask you to do the following:

- Complete the online survey that can be accessed through the link below. The survey includes demographic questions and will take approximately 5 minutes. ***http://www.surveymonkey.com/s.aspx?sm=jYribAa19nCC2Alek_2b8VOw_3d_3d***

- At the end of the online survey you will be given the option to be contacted for a 45 minute follow-up telephone interview. If you would be willing to participate in the telephone interview, you will be asked to provide your contact information so that we can arrange a time for the interview at your convenience.

This is a minimal risk study with the only perceived risk of your participation being the possible discomfort with discussing some of your challenging genetic counseling experiences.

There are no direct benefits to you for participating in this study.

The records of this study will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify you as a participant. Research records will be stored securely and only researchers will have access to the records. Identifying information will be removed from all returned surveys and data will be stored in a password protected computer. Follow up telephone interviews will be audiotaped and transcribed. All tapes will be destroyed after transcription and no identifiers will be kept.

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is Kim Zahm. If you have questions, **you are encouraged** to contact her at the University of Minnesota, **651.398.9867**, **zahm0002@umn.edu**. Kim's advisor is Pat McCarthy Veach. She can be reached at 612-624-3580, veach001@umn.edu .

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

Thank you for your time and consideration.

Kim Zahm

Bonnie S. LeRoy

Patricia McCarthy Veach

Appendix C: Sample Email to Selected Participants

Dear Genetic Counselor:

Thank you for very much your interest in participating in our study of genetic counselor professional development throughout the lifespan. I am emailing you because you indicated on the brief online survey that you would be willing to participate in one 45 minute phone interview about your professional development experiences.

Would you please send me an email response indicating your availability between Friday, February 22, and Monday, March 17 to participate in the 45 minute interview? Please indicate all dates and times that would work for you and feel free to include nights or weekends if these would be more convenient. **Also, please indicate the time zone in which you reside.** Once I receive your schedule, I will email you to confirm an interview time. I look forward to talking with you. If you are no longer interested, please let me know that as well. My email address is: zahm0002@umn.edu.

Respectfully;

Kim Zahm

Kimberly Zahm, M.A.
PhD Candidate
Department of Educational Psychology
Counseling and Student Personnel Psychology
University of Minnesota
Minneapolis, MN 55455
zahm0002@umn.edu

Appendix D: Sample Follow-Up Email to Selected Participants

Dear Genetic Counselor,

I had sent an email last week thanking you for your participation in our study on genetic counselor professional development throughout their lifespans and asking when you would be available to schedule a 45-minute telephone interview. I just wanted to check in with you to see if you are still interested in participating. If so, please respond to me at zahm0002@umn.edu by this Wednesday, February 27 with your availability between Wednesday, February 27 and Monday, March 17 so we can set up an interview at your convenience.

Please indicate all dates and times that would work for you and feel free to include nights or weekends if these would be more convenient. **Also, please indicate the time zone in which you reside.** Once I receive your schedule, I will email you to confirm an interview time. I look forward to talking with you. If you are no longer interested, please let me know that as well.

Thank you again for your time and interest.

Respectfully,

Kim Zahm

Kimberly Zahm, M.A.
PhD Candidate
Department of Educational Psychology
Counseling and Student Personnel Psychology
University of Minnesota
Minneapolis, MN 55455
zahm0002@umn.edu

Appendix E: IRB Correspondence

February 4, 2008

Institutional Review Board
University of Minnesota
Research Subjects' Protection Programs
MMC 820

420 Delaware St. SE

Minneapolis, MN 55455-0392

RE: "From Graduate to Seasoned Practitioner: A Qualitative Investigation of Genetic Counselor Professional Development"
IRB Code Number: 0712P23481

Dear IRB:

We would like to propose two changes to our study: 1) a change in the approved inclusion criteria of our study participants and 2) a change in the number of participants to be interviewed per category. First, the initial call for participants included an online survey link where potential participants could provide their contact information, years of experience, and amount of time in direct service with patients. We sent out the invitation on January 29, 2008 and received responses from potential participants who do not meet our initial inclusion criteria of either a) being currently involved in direct service with patients at least 20 hours per week; or b) if not currently involved in direct service with patients at least 20 hours per week, having been so within the past two years. Upon exploring this initial data, it is clear that there are multiple potential participants who would be valuable participants and have many years of experience, but many are engaged in genetic counseling activities not meeting the initial threshold of 20 hours of direct service per week. These activities include several clinical directors of training at genetic counseling programs throughout the United States, for example. Clinical work and providing direct service to patients may not occupy a distinct 20 hours of their weeks, but is infused in their work in myriad ways. We believe that the group we are proposing to include has valuable insights to share and should be included in the research study. Also in this group are several genetic counselors of color, a population that we believe to have invaluable experiences to include in our study.

Second, we would like to interview 15 participants per category rather than 10 per category (45 total rather than 30 as has been approved). This change is to ensure that we do reach saturation of data, which Hill et al. (1997) argues happens in 8-15 qualitative interviews. While 10 may be sufficient, we believe that 15 would ensure that we do reach that saturation.

The proposed changes would not affect participants' informed consent procedures, their confidentiality, and would not provide any additional risks of any kind. Rather, the proposed change would allow for a more representative sampling of the genetic counseling population.

Sincerely,

Kimberly W. Zahm, M.A.
Principal Investigator

Patricia McCarthy Veach, PhD
Professor, Department of Educational Psychology

We just approved this change. You will receive an acknowledgement in a few days. In the meantime you may initiate this change now.

Cynthia

Cynthia L. McGill, CIP
Research Compliance Supervisor IRB
Research Subjects' Protection Programs
University of Minnesota
420 Delaware Street SE
D-528, MMC 820
Minneapolis, MN 55455
RSPP # 612-626-5654
Direct # 612-626-5827
Fax # 612-626-6061
mcgil018@umn.edu

-----Original Message-----
From: Kimberly Zahm [mailto:zahm0002@umn.edu]
Sent: Friday, March 14, 2008 1:34 PM
To: mcgil018@umn.edu
Subject: Follow Up, IRB study 0712P23481

Dear Dr. McGill,

I just wanted to follow up with you briefly about the approved IRB study(0712P23481) for which I am the PI. We had sent a letter on 2/18/08 requesting two changes to our study--an increase in the allowed number of participants for each category and a modification to one of the inclusion criteria. I was just wanting to verify that you indeed received the letter and am wondering when I might expect to hear the final outcome of your/IRB's consideration. I am writing an email to you because when I called the IRB office on 3/3, the person I spoke with there transferred me to your voicemail and noted that you were the person I should speak with. I definitely do not mean to be "pushy" or bother you in any way; I know you are extremely busy and understand that the result will take some time. I was just interested in a possible timeframe that my research team and I can expect to hear back within. We have several potential participants who have expressed interest in the project that we would like to respond to if we do get an affirmative response from IRB enabling us to contact more participants.

Thank you very much for your time and consideration.

Respectfully,
Kim Zahm

****
February 4, 2008

Institutional Review Board
University of Minnesota
Research Subjects' Protection Programs
MMC 820
420 Delaware St. SE
Minneapolis, MN 55455-0392

RE: "From Graduate to Seasoned Practitioner: A Qualitative Investigation of Genetic Counselor Professional Development" IRB Code Number: 0712P23481

Dear IRB:

We would like to propose two changes to our study: 1) a change in the approved inclusion criteria of our study participants and 2) a change in the number of participants to be interviewed per category. First, the initial call for participants included an online survey link where potential participants could provide their contact information, years of experience, and amount of time in direct service with patients. We sent out the invitation on January 29, 2008 and received responses from potential participants who do not meet our initial inclusion criteria of either a) being currently involved in direct service with patients at least 20 hours per week; or b) if not currently involved in direct service with patients at least 20 hours per week, having been so within the past two years. Upon exploring this initial data, it is clear that there are multiple potential participants who would be valuable participants and have many years of experience, but many are engaged in genetic counseling activities not meeting the initial threshold of 20 hours of direct service per week. These activities include several clinical directors of training at genetic counseling programs throughout the United States, for example. Clinical work and providing direct service to patients may not occupy a distinct 20 hours of their weeks, but is infused in their work in myriad ways. We believe that the group we are proposing to include has valuable insights to share and should be included in the research study. Also in this group are several genetic counselors of color, a population that we believe to have invaluable experiences to include in our study.

Second, we would like to interview 15 participants per category rather than 10 per category (45 total rather than 30 as has been approved). This change is to ensure that we do reach saturation of data, which Hill et al. (1997) argues happens in 8-15 qualitative interviews. While 10 may be sufficient, we believe that 15 would ensure that we do reach that saturation.

The proposed changes would not affect participants' informed consent procedures, their confidentiality, and would not provide any additional risks of any kind. Rather, the proposed change would allow for a more representative sampling of the genetic counseling population.

Sincerely,

Kimberly W. Zahm, M.A.
Principal Investigator

Patricia McCarthy Veach, PhD
Professor, Department of Educational Psychology

Appendix F: Online Survey

1. What is your current practice specialty? (Check all that apply.)

- Assisted reproductive technologies / preimplantation
- Cardiovascular Genetics
- Familial Cancer Risk Counseling
- General Genetics
- Industry / Clinical Lab
- Metabolic / Lysosomal Storage Diseases
- Neurogenetics
- Pediatric Counseling
- Prenatal Counseling
- Private Practice
- Psychiatric Disorders
- Public Health
- Research
- Other (please specify): _____

2. How many years of post-degree genetic counseling experience do you have?

____

3. Are you currently practicing as a genetic counselor in direct service with patients at least 20 hours per week (on average)?

- Yes
- No

4. If you are NOT currently practicing as a genetic counselor in direct service with patients at least 20 hours per week (on average), have you done so in the past two years?

- Yes
- No

5. In which NSGC region do you practice?

- Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island)
- Region 2 (Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia, Quebec)
- Region 3 (Alabama, Georgia, Florida, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Puerto Rico)
- Region 4 (Arkansas, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Wisconsin, Ontario)
- Region 5 (Arizona, Colorado, Montana, New Mexico, Texas, Utah, Wyoming, Alberta, Manitoba, Saskatchewan)
- Region 6 (Alaska, California, Hawaii, Idaho, Nevada, Oregon, Washington,

British Columbia)
Other (please specify): _____

6. Gender
Female
Male

7. Please indicate the racial or ethnic group with which you most strongly identify:
Alaskan Native / American Native
Asian / Pacific Islander
African-American / Black
Bi-racial / Multi-racial
Chicano/a, Hispanic, Latino/a
European-American / White
Other (please specify): _____

8. If you are willing to be contacted for a 45-minute telephone interview about your own professional development processes, please provide your email address below so that you can be contacted by the researcher to set up a convenient interview time:
_____

Appendix G: Interview Protocol

Verify
- Years of experience
- Practice specialty

Ask
- Practice setting
- Age

Informed Consent Script: Thank you for volunteering to participate in this research. It is our hope and intent that this research will benefit you and fellow genetic counselors in more thoroughly understanding the professional development processes of genetic counselors throughout their lifespan. In the next 45 minutes or so, I will be asking you a series of questions about your professional development as a genetic counselor. You can end the interview or decline to answer any question at any time without negative consequences. This interview will be audiotaped. Once transcribed, all identifying information will de-identified before data analysis occurs. The tapes will be destroyed after the data analysis occurs. What questions do you have about the risks or benefits of your participation in this study?

1: Orlinsky et al. (2005), DPCCQ, optional response section
2: Skovholt & Ronnestad (1992)
3: Present study's own questions, generated by research team

What motivations and considerations originally led you to become a genetic counselor? (1)

What motivations are you aware of in your current genetic counseling practice? Optional prompt: What motivates you to continue in your current genetic counseling practice? (1)

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? (1)

What does the term "professional development" mean to you? How has that meaning changed for you over the course of your career? (3)

Would you describe your professional development as resulting from conscious efforts (seeking out opportunities, for example) or less conscious processes that you recognize retrospectively? (3)

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 career? (3)

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. (2)

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? (3)

How have your ideas about doing genetic counseling and being a genetic counselor changed during the course of your career? (1)

Do you see genetic counseling becoming more complex or simple for you as you have gained experience? Please explain. (2)

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? (2)

Tell me about a patient or genetic counseling session you'll never forget. (3)

How have events in your personal life affected your professional development? (3)

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. (3)

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? (1)

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? (3)

I'm going to read you a list of potential influences on your professional development. I'd like for you to think about how much influence (either positive or negative influence) each has had on your overall development as a genetic counselor. I'd like for you to think of a 4-point Likert scale from 1-4 with 1 being "this activity had **NO influence** on my PD" and 4 being "this activity has had **a great deal** of influence on my PD." As I read each activity, please briefly respond with how you would rate it in terms of how influential it has been on your development, including whether this influence has been positive or negative.

_____ Doing research
_____ Experiences in genetic counseling with patients
_____ Experiences in personal life
_____ Getting supervision or consultation
_____ Giving supervision
_____ Informal case discussion with colleagues

_____ Institutional conditions of one's practice
_____ Observing other genetic counselors
_____ Personal therapy, analysis, counseling, or genetic counseling
_____ Reading relevant books or journals
_____ Taking courses or seminars
_____ Teaching courses or seminars
_____ Working with genetic counseling colleagues
_____ Working with other professionals
_____ Other (please specify: _____)

[The above list comes from Orlinsky et al.'s (2005) quantitative results that show the top 13 influences on PD as rated by therapists in their study. The researcher added 3 items: 1) Added "genetic counseling" to "personal therapy, analysis, or counseling"; 2) Added "working with other professionals" between "working with genetic counseling colleagues" and "teaching courses or seminars" given how large a part that seems to play as discussed in the literature; 3) Added "giving supervision" based on the feedback of pilot interviewees.]

What else do you consider important about your development as a genetic counselor that has not been covered in this interview? (1)

Would it be okay with you if I keep your contact information on file to periodically check in with you about your professional development over time? It would be helpful in helping us get a sense of how the processes work over time in a longitudinal way, but there are no negative consequences for declining. Either way, I really appreciate your participation today.

Thank you so much for your time and participation.

[i] Further, Parrott and Del Vecchio (2006) reported that caseloads for genetic counselors in clinical work range from 1-79 patients per week, with means varying by specialty. Seeing too many clients may negatively impact work satisfaction, thus affecting development and potentially influencing the genetic counselor, her/his patients, and the workplace.

[ii] Several other notable studies that examine overall professional development are: Mitchell (2001) who explores "Continuing Professional Development" for social workers in the United Kingdom (her study is a rare blend of self-report and non-self-report measures (she interviewed social workers and their supervisors)); and Ducheny et al. (1997) who criticized Ronnestad & Skovholt's work in part for lacking a "concrete definition" of professional development and surveyed 1,100 graduate psychology students to help establish a solid and more encompassing definition.

[iii] For further literature on peer group supervision in genetic counseling, please refer to Kennedy, 2000a, b; Bosco, 2000; Hiller and Rosenfield, 2000; Likhite, 2000; Middleton, Wiles, Kershaw, Everest, Downing, Burton, et al., 2007; Zahm et al., 2008.

[iv] This "parallel process" of the evolution of genetic counseling as a whole is also documented and discussed by Ormond (2005) and Callanan (2006), among others. This evolution includes the need to raise awareness of and continue defining their evolving identity. As Ormond (2005) states, "As we define our scope of practice, we must, at the same time, act confidently on both the national and local level to demonstrate how we can fit into current health systems, focusing on the strengths that we bring to the health-care team, and initiating outcomes-based studies to document, in an evidence-based manner, the value of our services" (p. 86).

[v] This is a finding worthy of follow-up study, as the authors do not include qualitative data to provide possible explanations or insight accounting for the differences between subjective rating of personal growth and professional growth.

[vi] It is also important to note here that the authors do not argue that compassion fatigue necessarily leads to impairment or early departure from the field, though further systematic inquiry would be useful. Indeed, all of their participants had experienced compassion fatigue but remained active in the field (though their levels of impairment were not studied).

[vii] Another relevant study important to this line of inquiry is Schoonveld, McCarthy Veach, and LeRoy (2007) that qualitatively explores in-depth questions of what it is like to be "in the minority" in genetic counseling. They interviewed male and minority-identified genetic counselors and students. Their findings suggest that these individuals have a variety of unique experiences.

[viii] For purposes of scope of the question and space limitations, the next section will include several carefully chosen articles that represent key areas of the professional development literature. In contrast to the literature on professional development in genetic counseling, literature on professional development in counseling related fields does have a broader range of empirical research. Searches were done through PsycArticles, PubMed, and SpringerLink for professional development, professional growth, professional identity, post-licensure, compassion fatigue, practitioner development and various combinations of "professional development AND psychologists," for example. Thousands of results were returned, many of which were duplicates. Results were reviewed and articles of particular interest included those with "professional

development" in the title or subject. Reading these articles inevitably led to a proliferation of further resources that included relevant components of professional development not accounted for in the database searches. From the thousands of abstracts and hundreds of relevant articles, ultimate inclusion of an article in this dissertation literature review was determined by relevance to genetic counselor professional development. While dozens of articles could have easily been critiqued, it is this author's belief that their contributions are accurately represented through the literature that was reviewed and the resulting and larger commentary.

[ix] Dlugos and Friedlander (2001) define "passionate commitment" as: "a) a sense of being energized and invigorated by work rather than drained and exhausted by it; b) the ability to continue to thrive and love one's work in spite of the personal and environmental obstacles one might face in it; c) a demonstrable sense of balance and harmony with other aspects of one's life and d) a sense of energizing and invigorating those with whom one works" (p. 298). They further posit professional and personal experiences do intersect in meaningful ways: "In our view, sustaining passionate commitment to work as a psychotherapist reflects passionate commitment in other areas of life." Finally, their recommendations for practice are consistent with other professional development literature: create and maintain "boundaries between professional and nonprofessional life," "continually seeking feedback and supervision," engage in recreational activities in order "to provide freshness and energy," and more (p. 298). Connectedly, Coster and Schwebel, invoking the developmental frameworks of Levinson and Erikson, discuss the different lenses through which psychologists develop: "under the rubrics of 'person' and 'psychologist'" (p. 6). They write, "As persons, they are subject to positive and negative experiences at various points in their life span, from conception onward. These affect their early temperamental style and their evolving mind, personality, and value system. They go through a series of potential crises in life, emanating from their own developmental changes, from which they emerge either strengthened as a result of the resolution of contradictions or weakened as a result of heightened conflict….When they become psychologists, their studies and academic degrees do not shield them from the stresses of developmental changes and of everyday living….Theoretically, psychologists who have learned to anticipate, prevent, and cope with stress accomplish the goals of the developmental periods" (p. 6).

[x]For further discussion, please see Csikzentmihalyi (1990) and Skovholt & Jennings (2004).

[xi] Further work on impairment can be found in: Norcross, 2005; Schwebel, Schoener, and Skorina, 1994; Good, Thoreson, and Shaughnessy (1995); Guy, Poelstra, and Stark, 1989; Pope, 1987; Pope and Tabachnick, 1994; Thoreson, Miller, and Krauskopf, 1989, amongst others.

[xii] Additional work on compassion fatigue is also presented in Figley, 1995; Figley, 2002a; Kassam-Adams, 1999; Sabin-Farrell and Turpin, 2003; Stamm, 2002, amongst others.

[xiii] This is not to imply that compassion fatigue is a direct result of difficult interactions with patients. Research on compassion fatigue [cf. Benoit, McCarthy Veach, & Bartels, (2007) and Udipi, McCarthy Veach, Kao, & LeRoy (2008)] suggest that multiple, complex factors render one susceptible to compassion fatigue in genetic counseling.

[xiv] Further, based on Bandura's theories, Lent, Brown & Hackett (1994) describe "self-efficacy, outcome expectations, and goals" as "major mediators of choice and development" (p. 86).

[xv] Additionally, results from this study relate to literature on work-family balance and other life balance concerns (please see Perrone, Aegisdottir, Webb, & Blalock, 2006; Shapiro, Ingols, & Blake-Beard, 2008, for example).

[xvi] For more information about discussions on nondirectiveness, please see Hodgson & Spriggs (2005), Michie, Bron, Bobrow, & Marteau (1997), and Resta (1997), for example.

[xvii] For further discussion of genetic counselor empathy, please see Kessler, 1999, for example.

[xviii] Obviously the literature in counseling psychology has also grown substantially over the past decades, and ethical practitioners are expected to maintain currency on the literature and integrating that into their practice. But the pace and complexity with which new discoveries are made, new tests are developed, and new diagnoses are identified, is much less intense than in the genetic counseling field.

[xix] Heppner et al (1999) actually use developmental models (of supervision) as their example for explaining the importance of operationalizing definitions. They also point out that "as research within a topic progresses and becomes more complex, operational definitions often undergo revision as knowledge accumulates and researchers become more sophisticated" (p. 40).

[xx] Some authors (such as Ducheny, Alletzhauser, Crandell, & Schneider, 1997) argue that developmental models in counseling have limitations and are not the gold standard of conceptualizing and addressing developmental needs of practitioners throughout their lifespan. However, it is important to allow the field of genetic counseling to determine the relevance of a developmental model for itself through applicable research and investigation of its own needs.