An Exploration of the Interplay between Students’ Religious Beliefs and Their Genetic Counseling Graduate Training

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Abstract

Religion contributes greatly to the personal values of many genetic counselors. Subsequently, these values may directly influence their clinical work. However, there is a lack of research regarding the influence of personal religious beliefs on genetic counselors’ professional training. The purpose of this study was to explore the influence of graduate students’ religious beliefs on their professional genetic counseling training and the influences of the training process on students’ religious beliefs. We recruited first and second-year students enrolled in accredited genetic counseling programs who also identified with an organized religious tradition and randomly selected 10 to participate in phone interviews. The interviews explored both anticipated and actual experiences. Results were analyzed using Atlas.ti software and indicated that the most common positive influence experienced as a result of students’ religious beliefs was the use of their religious values to maintain their own morale and/or to support their patients. Pregnancy termination was the issue that most commonly conflicted with students’ religious beliefs and led many to avoid discussions about genetic counseling with their religious community. Most students felt comfortable discussing their religious beliefs with faculty or classmates, unless these individuals openly disagreed that religion plays a role in health care. With regard to their future plans, many students reported that they prefer not to work in a prenatal setting. Those who rated low in intrinsic religiosity, however, felt that their religious values would not influence future employment. Many students felt that their training was a positive outlet for their religious beliefs, while others questioned religion when patients used their own spirituality as a protective mechanism against medical information. Further research is needed to identify ways in which training program curricula can minimize the conflicts and promote the strengths of religious beliefs for students who identify with an organized religious tradition.

**Keywords:** genetic counseling, graduate students, religion, conflict, strengths, positive influences, negative influences, intrinsic religiosity, healthcare
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Introduction

Health Care and Religion

Religion can be defined as an organized system of beliefs that enables a degree of intimacy with a higher power, sometimes referred to as God (Koenig et al., 2001). Those who consider themselves “religious” may believe that religion is more than a simple series of beliefs or a set of customs. It can, for example, urge higher thoughts upon the mind, refine an individuals’ character, and essentially constitute people’s lives (‘Abdu’l-Bahá, 1982). In the past, religion was often not addressed within the public scope of health care. However, this is no longer true today since the interaction between religion and health care has become more prominent. For example, the debate concerning the legality of pregnancy termination has played a significant role in both state and federal politics since the Supreme Court’s landmark decision on abortion in Roe v. Wade in 1973. According to a recently published article regarding this ruling and society’s debate regarding pregnancy termination: “the variety in opinion on the issue is reflected in the diverse views of religious groups” (Vestal, 2008). Simply put, the religious values of individuals within society may guide the position that the public ultimately employs on a morally or ethically challenging issue. Other recent studies recognize religion as a crucial component in the lives of health care professionals and acknowledge its direct influence on their careers as well as their professional training (Curlin et al., 2007). These studies attest to the emerging interest in the interplay between an individual’s personal religious beliefs, professional training, and future employment – especially within the realm of health care delivery.

Genetic Counseling and Religion

The genetic counseling profession is designed to assist patients in understanding and adapting to the medical, emotional, and familial implications of the genetic components of
disease (NSGC, 1995). Genetic counselors are professionally trained to discuss both basic and complex genetic disorders and inheritance patterns while simultaneously providing psychosocial support to patients and families facing difficult decisions. These decisions are often introduced because of acquired genetic information. The choices people make when faced with a decision can be directly influenced by their personal values, which are often defined by their religious tradition and respective beliefs.

Recent studies demonstrate that genetic counselors exhibit strong patterns of concern for the well being of others. Also, personal values may be a motivational source that guides individual’s actions (Pirzadeh et al., 2007). Beyond these papers, there is little published information regarding genetic counselors’ personal values and how these values are impacted by or within their professional training. The limited amount of research in the field is in part due to the profession’s newness. The personal nature of genetic counseling creates an opportunity to further explore any potential interactions between the profession and personal values, and if applicable, religious beliefs.

Genetic Counseling Students and the Influence of Religion

While some previous studies have explored the extent and impact of personal religious beliefs on genetic counselors’ work (Pirzadeh et al., 2007) to date no study has specifically examined the experiences of current genetic counseling students who identify with a religious tradition. Furthermore, the potential impact their religious beliefs may have on their training and vice versa has not been explored. Training is an especially important time as studies have shown that professional training can drastically reduce or eliminate myths that students may hold. One example includes the feared misperception that a counselor's personal beliefs are always imposed on the counselee during a session (Kessler, 1992). Genetic counseling graduate students may
provide a unique perspective about the influences – either positive or negative – between their religious beliefs and their genetic counseling training because of their more recent immersion into the field. Students’ religious values may also affect their experiences within the genetic counseling training process and influence their future professional plans. Therefore, exploring the issues surrounding these positive and negative influences might bring to light how students can both mediate internal conflicts and reap potential benefits from their religious beliefs during their training.

**Purpose of the Study**

This study aims to assess genetic counseling students’ anticipated and actual experiences with the genetic counseling training process. More specifically, we wanted to (1) explore the influence of personal religious beliefs on students’ experiences in the genetic counseling training program, and (2) explore the influence of the training process on students’ religious beliefs and personal values as defined by their respective religious tradition.

We hope that the results of this study may provide useful information in developing and updating genetic counseling training program curricula to help students resolve any religious conflicts and reinforce the positive influences of religion for these students. The results of this study may also provide supporting evidence for program directors to focus – or continue to focus - on training genetic counseling students as *reflective practitioners*, as suggested by Pirzadeh et al., 2007. Becoming trained as such means they will constantly assess both their personal values and how these values may reflect on their patient interactions. Finally, the results of this study may increase the awareness and understanding among supervisors about students that identify with a religious tradition who they personally mentor during their clinical internships. These improvements may enhance the training process experience for these graduate students so that
they are better prepared to handle any conflicting feelings and use their religious values to their and their patients’ benefit.

**Methods**

**Study Design**

Semi-structured interviews were conducted with genetic counseling graduate students who self-identified with an organized religious tradition and reported completing at least one clinical observation or counseling internship during their genetic counseling training. In addition, they agreed that their religious beliefs have influenced and/or been influenced by their training. The interviews were professionally transcribed and descriptive data analysis was performed to identify and tally any trends among the emergent themes.

**Recruitment**

Students were recruited through an email solicitation sent to the program directors of genetic counseling programs that were accredited by the American Board of Genetic Counselors (ABGC) on 23 January 2009 (see Appendix A). All programs were included except for the Brandeis University Genetic Counseling Program. The recruitment notice invited students to contact the principal investigator if they were interested in participating in the study and met the eligibility criteria. (Please see Appendix D)

The recruitment period ended on 13 February 2009 at which time, ten students were randomly selected from the pool of 22 eligible respondents to participate in the phone interview. The students were notified via email and the selected students were forwarded the informed consent form (Appendix C) to sign and return to the principal investigator. Once the completed consent form was received, the phone interview was scheduled. The Institutional Review Board (IRB) at Brandeis University approved all study materials prior to their use.
Data Collection

Each interview was conducted by the principal investigator, ran approximately 30 minutes, and followed the semi-structured interview guide consisting of both open ended and closed questions (Appendix B). Overall, the interview questions were designed to explore students’ anticipated influences prior to entering graduate school as well as their experiences once attending a training program. The first several questions ascertained demographic information about each participant including their training program, year in training, age, ethnicity, what type of settings they observed and/or counseled cases, and their religious tradition. The ethnic categories listed in question 1C of the interview guide were adapted from the National Society of Genetic Counselors’ Annual Professional Status Survey (NSGC, 2006). Questions 1I and 1J were adapted from Hoge’s Intrinsic Religious Motivation Scale and used to assess intrinsic religiosity. Subsequent questions in the guide focused on the influence of religious beliefs both prior and during the genetic counseling training process as well as potential influences on future professional plan. The next set of questions focused more on issues and cases experienced during the training program that influenced their religious beliefs. The final few questions concerned students’ comfort levels with their interaction and communication with their genetic counseling and religious communities.

All phone interviews were digitally recorded and professionally transcribed. All interviews and documents were kept confidential. After the completion of each interview, all identifiable information was destroyed and replaced with a code number. At the completion of the study, the students who participated in the phone interview received a $25.00 electronic gift certificate to Amazon.com as compensation for their participation.
Data Analysis

Descriptive data analysis was conducted using ATLAS.ti software and the transcribed interviews were coded for emergent themes. Each theme was tallied to determine how often these themes occurred in the responses gathered and representative quotes were selected from the transcribed interviews to demonstrate the codes and themes identified.

Results

We organized the recorded data in this section in the following categories: 1) demographics (including a- intrinsic religiosity and religious affiliations and b- student’s clinical experiences in graduate school), 2) the influences of religious beliefs in the genetic counseling training program, 3) the influences of the genetic counseling training program process on religious beliefs, and 4) genetic counseling and religious community interactions.

Demographics

We interviewed 10 students, chosen at random from the 22 students who responded to the recruitment notice. Of these, 9 were female and 1 was male. Eight of the students were Caucasian and 2 were Asian. They ranged in age from 22 to 29 years, with an average age of 25. They attended 10 different genetic counseling training programs: six students attended a training program in NSGC Region II, 1 in Region III, and 3 students attended a school in Region IV. (Please refer to the NSGC website for more information regarding the areas included in each region). Six students were in their second year of the genetic counseling training program while 4 students were in their first year of training. Four students reported immediately entering graduate school after completing their undergraduate degree while 6 students took time off either during or after college for personal or professional reasons. The religious affiliations of the
students in the study included: Christian (non-denominational), Lutheran, Protestant, member of the church of Jesus Christ of Latter Day Saints, and Roman Catholic. (Please see Figure 1)

**Figure 1: Religious Tradition Frequencies**

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**Intrinsic Religiosity and Religious Affiliations**

Intrinsic religiosity is defined as the extent to which an individual embraces his or her religious tradition as the guiding foundation in his or her life. It is also defined by the extent to which an individual’s religious tradition gives meaning and direction to his or her life (Hoge, 1972). We assessed intrinsic religiosity in this study because it is a significant and validated measurement to determine the degree to which students consider their religious tradition a significant component of their personal values and their lives.

To assess intrinsic religiosity, students were asked to use a 5-point Likert scale from “strongly disagree” to “strongly agree” to rate two statements derived from Hoge’s Intrinsic Religious Motivation Scale (Hoge, 1972). The two adapted statements used in the interview to
assess intrinsic religiosity have been extensively validated in previous studies (Allport, 1967) (Gorsuch and McPherson, 1989) (Curlin et al., 2007). The statements rated by students in the interview were as follows:

- “I try hard to carry my religious beliefs over into all my other dealings in life”
- “My whole approach to life is based on my religion”

(Curlin et al., 2007)

Intrinsic religiosity was categorized as low if the student “disagreed” with both statements or “disagreed” with one and “neither agreed nor disagreed” with the other, moderate if they “agreed” with both statements presented or “agreed” with one and “neither agreed nor disagreed” with the other, and high if they “strongly agreed” with both statements or “strongly agreed” with one and “agreed” with the other. Two of the students rated as low, 4 rated as moderate, and 4 students rated high in intrinsic religiosity. There was no apparent relationship between intrinsic religiosity and any given religious tradition. (Please see Figure 2)

**Figure 2: Intrinsic Religiosity and Religious Traditions**
Students’ Clinical Experiences in Graduate School

The scope of genetic counseling training typically involves both a didactic and clinical component. At the time of our interview, 2 students had only observed sessions while 8 students had both observed and counseled sessions under supervision as part of their training. The three central settings in which genetic counseling services are generally offered and consequently training is provided to students via clinical internships are prenatal, pediatric, and cancer. Table 1 summarizes the settings in which each student observed and/or counseled cases under supervision as part of their graduate training.

Table 1: Student Observation & Counseling Experience

<table>
<thead>
<tr>
<th>Observational Experience</th>
<th>Counseling Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Prenatal, Cancer, Other</td>
<td>Prenatal, Cancer, Other</td>
</tr>
<tr>
<td>2 Prenatal, Pediatrics</td>
<td>Prenatal, Pediatrics</td>
</tr>
<tr>
<td>3 Prenatal, Cancer</td>
<td>Prenatal</td>
</tr>
<tr>
<td>4 Prenatal, Cancer, Pediatrics, Other</td>
<td>Prenatal, Cancer, Pediatrics, Other</td>
</tr>
<tr>
<td>5 Prenatal, Cancer, Pediatrics, Other</td>
<td>Prenatal, Cancer, Other</td>
</tr>
<tr>
<td>6 Prenatal, Other</td>
<td>None</td>
</tr>
<tr>
<td>7 Prenatal, Cancer, Pediatrics, Other</td>
<td>Prenatal, Cancer, Pediatrics, Other</td>
</tr>
<tr>
<td>8 Prenatal, Other</td>
<td>Other</td>
</tr>
<tr>
<td>9 Prenatal, Cancer, Pediatrics, Other</td>
<td>Prenatal, Cancer</td>
</tr>
<tr>
<td>10 Prenatal, Cancer, Pediatrics, Other</td>
<td>None</td>
</tr>
</tbody>
</table>

The “other” category listed in Table 1 encompasses the following practice areas: general genetics, adult genetics, specialty clinics (i.e. bone dysplasia, cardiac, cystic fibrosis, infertility,
and muscular dystrophy), and non-traditional (biochemical and commercial industry) settings.

Results of Influences of Religious Beliefs in the Genetic Counseling Training Program

a) Anticipated Influences Prior to Entering Graduate School

Nine of the 10 students had thought that their religious beliefs would influence their genetic counseling graduate training prior to entering graduate school. In at least one case, a student became concerned only after a program director raised this issue during the interview process.

“It seemed like all the directors were concerned about that, so right from the beginning I realized that [it] would be an aspect of my training experience.”

i) Positive Anticipations

A common theme among the three students who anticipated a positive influence was that they would incorporate the values they had learned from their respective religious tradition into the clinical setting.

“My faith taught me to be a very open and accepting person, and so I thought that by going into the training program that this prepared me well for the people I would meet there and various supervisors and patients that I would see.”

“I think what I learned from my religious side of things was really having genuine, compassionate relationships... That was something that I wanted to carry through into the genetic counseling side of things. Like respect and love.”

Another student anticipated contributing a potentially unique perspective to class discussions because of her religious beliefs.

“...I knew that I would be coming in with a little bit more conservative views than maybe some of the other people in my program. So I thought being able to bounce back ideas between someone more conservative and maybe someone [with] more liberal ideas, I thought we could maybe learn from that.”
ii) Negative Anticipations

Of the six students who anticipated that their religious beliefs would have a negative influence in their genetic counseling training, the majority raised concerns surrounding the issue of pregnancy termination while others raised concerns both inside and outside of the prenatal setting.

“I guess my biggest concern was the topic of abortion enough where it might come in conflict with my religious beliefs.”

“I knew that prenatal would be difficult for me... I knew that [it] would be difficult for me to train to be a non-directive counselor in that setting. So yes, I definitely did think about that and that was one of my concerns.”

“I was a little bit worried going into it. I thought... I would be stigmatized for my religious beliefs.”

iii) Preparations Prior to Entering Graduate School

Of the 9 students who anticipated that their religious beliefs might influence their training, 5 took steps to prepare prior to entering their genetic counseling program. Some reported that they prayed and/or read their respective religious Scriptures to better understand their religious tradition’s position on ethically challenging issues. Several students shadowed genetic counselors while others volunteered in a teen pregnancy crisis organization prior to entering graduate school, which helped them to better understand the responsibilities and expectations of the job.

In all cases, these students felt that they benefited from their experiences and that these experiences helped them delve deeper into many of the ethical and moral conflicts they thought they might face in graduate school.
b) Actual Influences Experienced While in Graduate School

When we asked students about their experiences while in graduate school, all of them responded that their religious beliefs have been helpful at some point during their training. In addition, 8 students voiced that they have also experienced conflict between their religious beliefs and their training.

i) Positive Influences

The most common positive impact of students’ religious beliefs was the use of their religious values to sustain their own morale and/or to support their patients. Some other ways in which students’ religious beliefs positively influenced their training included: feeling better equipped to assist patients and understand their reliance on spirituality, feeling more accepting of life – even with disabilities - and building stronger rapport with patients because of students’ personal religious values.

“I feel almost that when I’m counseling somebody who’s also religious, it doesn’t matter what their background is… If they say, ‘I really think that God will take care of me and everything will be fine with this pregnancy,’ some counselors might get a little bit uncomfortable with that… But I feel that I almost have a deep understanding of what they’re talking about… I don’t ever mention ‘I’m religious too, why don’t we bond over that?’ Because that’s not important, but I just feel that I have a deep understanding of where they’re coming from there.”

“I feel I can really understand where she [patient] is coming from; the fact that you can derive a lot of strength from spirituality. I think in my session she also felt that I can actually understand what she’s talking about so maybe because of my religious background there was added value to our session.”

“I’ve seen physicians who discount religious beliefs and they just try to push the medical system upon patients who are not always comfortable with that, so I think in that case it helps me relate to the patients a little bit.”

“I guess my religious beliefs are helpful in that I hope that I’m spreading the love of Christ through the relationships that I form with my patients and... I guess, just in general how I approach patients and build rapport with them, I think that’s a reflection on my religious beliefs.”
“I guess in pediatrics it’s helpful just because what I believe is that every person is put here for a purpose and they all have just as much right to life as anyone else. So I think a lot of times when we see cases in pediatrics with kids that have a lot of disabilities, I think it’s really helpful that I have the view that they still deserve to be respected and loved despite the problems that they have. And I think that it’s helpful when I’m dealing with the patients and has also been comforting to the parents as well.”

“I think that my own personal practice of praying and meditating on that [challenging case] would really help me through and help me be strong for my patients.”

**ii) Negative Influences**

Of those who felt there were negative influences between their religious beliefs and their training, most said that conflicts arose when observing or counseling ethically challenging cases, when watching movies about children with disabilities, and in discussions with classmates, faculty, and clinical internship supervisors. Nevertheless, all 8 raised the issue of pregnancy termination as the greatest source of conflict with their religious beliefs in their training. Some students shared specific examples of these cases.

“It was a little uncomfortable to hear the patient say that a child with special needs [Down syndrome] didn’t fit into her lifestyle and she wasn’t willing to bring such a child into the world. And she didn’t even seem to really give it much thought. It was a little uncomfortable for me.”

“It really hit home that people will choose to terminate based on the information that you are giving them... People are willing to sometimes terminate for reasons that you wouldn’t personally deem appropriate... but obviously that’s their decision to make. And that falls into my religious beliefs and what I believe in and the conflict would be the person’s reason to justify termination.”

By contrast, two students reported that they have not experienced any negative influences of their religious beliefs in their training. One attributed this to her more liberal ideology than many others who identify with a religious tradition. Another said that she doesn’t feel graduate school is the appropriate time to explore internal conflicts associated with religion.

“No, I haven’t actually come across anything that’s been particularly challenging because of my religious beliefs and I think it’s because I counsel on the perspective of the patient’s needs come first and so I think that whatever their religious beliefs are more important to me than my own at that time...”
“It’s not really the time in my life to really challenge my own beliefs or to really pour through the impact that that’s having because my focus is so engaged by the learning process in this program that I don’t really have time to think about the larger implications.”

c) Anticipated Impact of Religious Beliefs on Future Plans

The two students who rated low in intrinsic religiosity do not anticipate that their religious beliefs will influence the specific path they pursue within the genetic counseling profession after graduation. The other 8 students in the study anticipate that their religious beliefs will influence their future employment. Five said that they would try not to work in a prenatal setting because the issue of termination specifically posed too large a challenge to their religious beliefs. By working in a setting other than prenatal, these students feel they would also potentially avoid tension when discussing their profession with members of their respective religious community. Others were also more genuinely interested in other practice areas of genetic counseling.

“I think as a profession I would probably not choose prenatal. The fact that we’re on the borderline of having to pick and choose life or death, maybe I’m a little apprehensive in that setting. I will probably look for other specialty clinics.”

“I probably won’t go into prenatal. And it’s not necessarily that I feel like I would necessarily be pressured to tell people ‘have an abortion’ or anything, but I think it would just be, it would be really hard for me to deal with it on a consistent basis of knowing that lives are being lost.”

“I think partly it’s my own personal beliefs and interests... A small part of it is also the religious tension and not having to explain what I do at work every day... or have that come up when [going] to church or things like that. It would probably be much easier to explain my role if I were in a pediatric or cancer setting.”

Another student wanted to go back to educate the religious community about the role of prenatal genetic counselors and to offer prenatal testing.

“I do believe, however, that later on throughout my career it will direct my path a bit just because I can, within the community of my own church... see a lot of areas for educating people concerning a lot of what we talk about prenatally...”
Finally, one student wanted to work in a setting where religion could be openly discussed.

“I would like to work in a setting where it’s an option or we’re free to discuss religion and I feel like that’s really frowned upon...”

Results of Influences of the Genetic Counseling Training Process on Religious Beliefs

a) Anticipated Influences Prior to Entering Graduate School

As part of the interview, we asked students if prior to entering the genetic counseling program they anticipated that their graduate training would influence their religious beliefs and six of the ten students said “yes”. These students generally voiced positive or neutral anticipations.

“I anticipated that the program would make me more conscientious about human choices and maybe to be more accepting or open-minded to abortion.”

“I did think that yes, my views could change or my ideas that are in my faith could change based on my training... and I believe some aspects of my faith are more well-understood and have changed to a certain extent based on my training.”

In contrast, 4 students did not anticipate that their training would influence their religious beliefs. Some never considered it a possibility. One reported that her personal experiences with genetic counseling prior to entering graduate school helped alleviate any anxiety and another said that her faith was so strong that nothing could influence it.

“No, because I had done some shadowing before I’d gotten into the program and I knew what is involved and what will often come up.”

“I went into the program with pretty strong beliefs and thinking I knew where I stood on certain topics so I didn’t go into the program expecting that anything would be changing that.”

b) Actual Influences Experienced While in Graduate School

All ten students reported that their training had had a positive influence on their religious beliefs while six students said that their training had challenged their religious beliefs.
i) Positive Influences

The kinds of positive influences students reported were those in which their training either strengthened their religious beliefs or directly encouraged them to more frequently practice their respective religious tradition.

“[My training] strengthened my view of the value of people and that you need to love all people regardless of who they are and what they’re going through... [To love all people] is definitely very much a part of my religious beliefs and just to show them that they’re valuable. I think genetic counseling is an outlet for that.”

“I had done some learning sessions on expressing your faith through services, so by serving others. And so being in this genetic counseling program, doing my best to help patients through difficult times, really to me is fulfilling part of that.”

Students generally felt it was the overall nature of the genetic counseling training program to strongly encourage them to explore their own personal and religious values by exposing them to a variety of perspectives so that they become aware of potential biases and can therefore become better non-directive counselors. Most second-year students, in particular, felt that their interactions with a diverse patient population positively influenced and increased the scope of their personal values defined by religious beliefs.

“I feel that the program [has] exposed me to a lot of different people and a lot of different scenarios that have given me the opportunity to really think about what I believe because with all of these people asking me these questions and putting me in different scenarios... it’s prompted me and given me things to think about.”

Another student reported that the demanding nature of the program itself strengthened her faith and religious beliefs.

“I think that maybe just going through graduate school, because of the difficulties of it, has strengthened my faith.... It’s the stress of being in school, having a lot of responsibilities, a lot to do, a lot to study, the stress of doing well, being away from home, all of those things factor into it. So I think it’s all hard, but because of my faith, I think I’ve had to turn to God more because of those difficulties and in that way my faith has gotten stronger.”
Finally, another student felt her genetic counseling training exposed her to patients who valued religion. This made the student appreciative of its positive influences.

“I also appreciate how resilient people can be in the face of hardship and I feel like religion does play a part in helping people go through the process of hardship.”

**ii) Negative Influences**

Six students felt that their training has in some way negatively influenced or challenged their religious beliefs. A common theme among those who felt that their training had in some way negatively influenced or challenged their religious beliefs was that working with and witnessing the quality of life for children with disabilities and their parents in the pediatric setting made them question whether the total prohibition of pregnancy termination as defined by their respective religious tradition was valid.

“…When you’re in the pediatric setting and you actually see some of these children after couples have given birth and the kids go through so many tests and surgeries and all these different evaluations and [I] think about how that would fit into my life and whether I’d be able to take care of a child like that.”

“…Say you never thought this would be an option, but when you’re in their shoes and you are facing this and you have this decision to make and there’s all these other factors, you start to think maybe it would be an option.”

Others raised additional issues that were presented during their training and challenged their religious beliefs.

“They have talked a lot about non-directiveness and I know that’s something that is very important to NSGC. So not that I want to force anything on anyone or direct anyone just because it’s the way I feel they should go, but yeah, that’s conflicted with it a little bit…”

“I was so busy my first year with all the classes and curriculum and work that I found less time to spend to practice personally and at the church that I go to.”

“…There are always things that are brought up in class that will spark discussion afterwards and they [my classmates] will ask me questions about what I believe and why I think that way… it’s been maybe challenging me in a way to be like ‘why do you think that way’ and ‘why are you feeling so strong about it?’”
Students also shared cases that made them question the protective nature of religion in the lives of their patients, especially when used as a shield against medical information.

“...They [prenatal patient and family] just consistently kept saying, ‘Oh, well, God will take care of it and we believe in God and for that reason nothing bad will happen.’ And so I think almost in that respect that was a case in which I almost veered away from my own religious beliefs and I even questioned it in seeing the family’s faith and how it kept them from taking in the information. It really made me think about the protective nature of religiosity; how that can sometimes be negative.”

Another reported conflict was the delicate relation between science and religion.

“Understanding the genetic basis behind disease, but knowing that it is really sort of random who is affected and who is not and reconciling that with the belief that there is a God who loves us. That’s a question that I have struggled with in different forms in the past.”

These conflicts did not necessarily change the students’ religious beliefs.

“I find it harder to see things in black and white, to step back and adhere to all the teachings of the church, because I do empathize and I do understand that there are other alternatives and other perspectives. I don’t think I would ever actually act on them, but I think I see a little bit more gray area than I did before.”

“I realized that there are more answers to the question of ‘Do we want to terminate?’ than just yes or no. There’s a lot of reasoning that goes into yes or no. No, like I said, based on my religious beliefs I would not have taken the same route as they did, but because of my training I was able to understand and I was able to completely support their decision.”

“[The training] helps me to think differently and it helps me to be open to different perspectives, but thankfully I don’t feel like I have to believe differently or have to act differently.”

On the other hand, several students reported that they learned to accept patient autonomy and have come to understand that genetic counseling is a non-directive profession.

“... You’re not telling the patients what to do, you’re offering them services. And so I think that I’ve been able to separate my religious beliefs from what I’m doing because really I’m not telling anybody to do anything and I’m giving them options of what they can do.”

“I definitely don’t feel challenged when I do present the option of abortion in my setting. I think I’ve come [to terms] in the sense that I feel we as humans are entitled to free will and I think that’s probably one of the many gifts that God has given us... We are free to choose how we live our lives.”
“I think that I have come to an understanding within myself that my faith teaches me to help other people and not to judge them.”

Genetic Counseling and Religious Community Interactions

In the interview, we asked questions to explore students’ level of comfort with discussing their religious beliefs with their genetic counseling community including their faculty, clinical supervisors, classmates, and patients. We also asked about their comfort with discussing genetic counseling cases with their respective religious community.

a) Discussing Religious Beliefs with One’s Genetic Counseling Community

i) Program Director, Faculty, & Clinical Supervisors

When asked if they felt comfortable discussing their religious beliefs with their program directors and/or faculty members, 8 of the 10 students reported that they currently felt comfortable regardless of any initial reservations they may have experienced. They attributed their level of comfort either to their program director’s openness about his or her own personal beliefs or because their program director had previously expressed that he or she feels spirituality plays a role in healing. Despite this report, some students still raised concern in discussing their religious beliefs with their program director or faculty members.

“At first you don’t really mention when you practice or how you practice or what you practice just because that is something that in a professional setting I wouldn’t shout from the rooftops...”

“It’s definitely a different dynamic with your faculty. There’s more of a growing process because the faculty is in a position of authority over you, they are evaluating you, so I would say I’m more hesitant sometimes to bring up certain things with faculty because they are in a position to change things.”

The two students who stated that they do not feel comfortable discussing their religious beliefs with some of their faculty members explained that this was because of what these faculty members had previously verbally expressed.
“...There are some [faculty members] that openly in class will say, like... ‘Everybody in this class is pro-choice. Nobody in genetic counseling could be pro-life.’ Or something like ‘Nobody here is Catholic, because genetic counselors in general tend to not be Catholic,’ or there are a lot of [times] where she says things that make me uncomfortable in class and I would never ever volunteer the fact that I belong to the religious community that I do. I would just never say that in class because I feel like she would just judge me right away and has made me uncomfortable in class many times.”

“My current supervisor has said that she hates religion... and I understand where she’s coming from. I understand that she’s angry at the guilt that certain patients feel because of their religion and that’s what upsets her, but I would not feel comfortable...”

**ii) Classmates**

Six of the ten students feel comfortable discussing their religious tradition with all of their classmates while 4 said that they feel uncomfortable discussing it with some or all of their classmates.

Students commonly reported that they feel comfortable because of a mutual bond of respect among their classmates even though they do not all share the same beliefs. Nevertheless, students also generally reported being cognizant and cautious in their approach with these discussions because they wanted to avoid instigating conflict regardless of their level of comfort.

“As I grew to know my classmates and to really know where they are coming from, that they’re just being curious, it became a lot easier for me and now I’m very comfortable openly discussing anything to do with my religion and my beliefs.”

“I feel pretty comfortable discussing that with anybody who wants to talk to me about it, so yeah, I feel comfortable. I don’t want to force anything on anyone, so I’m careful in how I approach that, but yeah, I’m definitely open about it.”

The two students who are uncomfortable sharing their religious beliefs with their classmates said it was because they feared being judged or because their classmates had explicitly stated that they do not agree with religion.

“...That’s sort of a little bit hard trying to get people to see past that and see you for who you are and not label you based on your religion.”
“I have one classmate who has firmly expressed non-religious beliefs and so I don’t feel comfortable at all sharing my thoughts on the matter.”

**iii) Patients**

Eight students responded that they would feel comfortable, but hesitant, discussing their religious beliefs with their patients while 2 students felt uncomfortable and desired to keep their religious tradition separate from their work. Some explanations included a desire to avoid potential conflict or loss of rapport, to avoid self-disclosure, or because they felt it was inappropriate or unprofessional.

“I don’t really feel comfortable discussing [religious beliefs] with my patients. Maybe that’s something that you just keep separate from work and so I wouldn’t discuss it with them...”

“...I feel comfortable talking to people about it, but I don’t always. I wouldn’t bring it up on a regular basis just because I know that I might cause confrontation right then and there.”

“I would say yes that I’d feel comfortable, but whether or not that’s appropriate would be a different story.”

**b) Discussing Genetic Counseling Issues with One’s Religious Community**

First, we asked students to think of their religious community either in their hometown or current city of residence, if different. Then we asked whether or not they felt comfortable discussing genetic counseling cases with these communities. Among those interviewed, 7 students reported feeling hesitant or uncomfortable discussing their genetic counseling experiences with their religious community. A common theme was the overall misunderstanding among members of their religious community about the field of genetic counseling and genetic counselors’ specific roles in patients’ medical care. Even when these students attempted to explain the genetic counseling profession to their religious community, some felt it made their community members uncomfortable. Some students were also concerned about how to give an overview of what they do without offending or alienating members of their religious community.
“I feel like when you start talking to people about termination they get very antsy and it’s just something very difficult.”

“People in my religious community don’t really know what genetic counseling is and when I try to explain it to them it makes them really uncomfortable.”

“I just try to present the basics and not have that discussion with people in my religious community because I know that it would be uncomfortable and there would probably be some disagreement.”

Of the 3 students who reported feeling comfortable sharing their genetic counseling experiences during their training with their religious communities, some explained that they felt this was because their religious leaders and/or community members would be understanding of the students’ role in the session and of the difficulty of the patient’s decision. Others have adopted the perspective that because they are not making decisions for their patients and are only responsible for presenting information and offering options in a non-directive manner, they will not be held accountable for their patient’s choices.

“I feel that within my religious community there’s more tolerance to knowing that the parents are making a decision out of love for their child; that the child would not have a certain quality of life… and knowing that that child will go to heaven. That you’re liberating this child from suffering to go to heaven makes it a little bit more acceptable.”

“I also think that they [religious community members] think that you should be actively telling people ‘You don’t need an abortion,’ or ‘Abortion is wrong’… and I don’t believe that… I think that I have come to an understanding within myself that my faith teaches me to help other people and not to judge them.”

Discussion

This qualitative study provides insights into the interplay between personal religious beliefs and the genetic counseling training process as experienced by current graduate students. It also provides further evidence that religious values may be a vital component of individuals’ job training (Abrams and Kessler, 2002). There are many factors that play a role in influencing religious beliefs and the experiences garnered in the genetic counseling training process.
However, these factors are not the same for every student and what one student feels influenced their religious beliefs or training experience may not have impacted another student at all. Several common themes did emerge as elements that influenced students’ religious beliefs or their genetic counseling training. The most commonly reported anticipated and experienced negative influence of students’ religious beliefs on the training process was the issue of pregnancy termination – a topic typically broached in the prenatal setting. Another, less commonly reported negative influence was students’ fear of being stigmatized by the genetic counseling community because of their religious beliefs. This anticipated fear did not deter the students from entering the genetic counseling profession, but it initially made them hesitant and/or uncomfortable to share their religious beliefs with their genetic counseling community.

Overall, this study found that if a student anticipated a negative influence of their religious beliefs on the training process, he or she tended to take steps prior to entering the program to resolve these internal conflicts, if possible. However, all of these students still reported experiencing conflicts usually in the same areas once enrolled in graduate school. There is not a lot of data regarding how preparations prior to graduate school may help to mediate anticipated conflicts; however, there is a body of work describing the importance of being trained to be objective and aware of one’s own biases in order to better care for the patient (Pirzadeh et al., 2007) (Ponzer et al., 2004) (Quill and Brody, 1996). In general, students view their time spent in graduate school as an opportunity to resolve any lingering internal conflicts between their religious beliefs and the genetic counseling profession. Therefore, students’ awareness of potential conflicts prior to entering graduate school may benefit their development into future professionals during the training process.
Influences of Religious Beliefs in Genetic Counseling Training

A large number of students responded that their religious beliefs positively influenced their experiences during the training process. Students reported feeling better equipped to assist patients regardless of their religious beliefs, being able to understand and respect patients’ reliance on spirituality, feeling more accepting of life – even with disabilities - building stronger rapport with patients because of students’ personal religious beliefs, and praying for strength after an emotionally heavy case.

The genetic counseling students in this study report that they use their religious values to support themselves and their patients. In accordance with previous studies, genetic counseling professionals also do this by bringing their religious values, in addition to their knowledge and experience, to each session, thereby influencing the care they provide (Abrams and Kessler, 2002). Regardless of their own religious tradition students generally feel comfortable with patients’ religious traditions and understand its importance in their patients’ lives.

Finally, one student felt that the limited time in graduate school was a positive influence because it made her rely on prayer and her religious values to maintain her composure. However, another student felt that this meant less time to participate in her religious community’s activities and was therefore a negative influence on her religious beliefs. Thus, more data would be needed to make a significant assessment of this factor.

Influences of Religious Beliefs on Future Employment

When asked about future employment, the two students who rated low in intrinsic religiosity were the only students who reported that their religious beliefs would not impact the specific genetic counseling setting where they would ultimately seek employment. This was somewhat expected since the definition of low intrinsic religiosity includes a reduced reliance on
religious beliefs to make important life decisions. Many of the other students interviewed said that they would not work in the prenatal setting in order to avoid any potential conflicts with their religious beliefs and/or religious community members. However, it was interesting to learn that some students were specifically interested in returning to their religious communities to educate its members about the role of prenatal genetic counselors and available prenatal testing options. This may be a promising opportunity to eliminate previously held misperceptions and to build a better understanding of the genetic counseling profession within religious communities in the future.

**Influences of the Genetic Counseling Training Process on Religious Beliefs**

Several common themes emerged as elements of students’ genetic counseling training programs that have in some way challenged their religious beliefs. The most commonly reported factor, again, was the issue of pregnancy termination. Students often felt conflicted about their religious traditions’ total prohibition of pregnancy termination especially during their pediatric rotations while observing children undergoing an extensive number of medical procedures. Second-year students, who had more frequently observed or counseled diverse patient populations than first-year students, had a broader perspective and they reported that they are now more likely to understand a patients’ position in making certain decisions – especially regarding pregnancy termination – and would feel more comfortable in supporting them.

Students reported that they were comfortable discussing their religious beliefs with faculty members and their program director unless these individuals explicitly stated that they did not feel religion had a place within the field of genetic counseling. While we have no way of ascertaining whether or not students heard their faculty members correctly, if what they reported is true, it is surprising that faculty would close off discussion in this important area. As
expected, students felt more comfortable discussing their religious beliefs with classmates than
with faculty members, program directors, or clinical supervisors because of the more informal
relationship between students. Additionally it is not surprising that students in this study felt
hesitant sharing their religious beliefs with their patients because they are generally taught in
their training to avoid self-disclosure and directive counseling as it is deemed inappropriate and
unprofessional.

**Implications for Genetic Counseling Training**

Throughout their interviews, students offered techniques that their respective programs
employ that have helped them deal with their internal conflicts. Others indicated areas in which
they felt their programs might benefit from improvement. Students reported that it is helpful
when faculty members encourage them to consider both sides of ethically and morally
challenging cases by providing literature and prompting discussions. Several students reported
that they do not discuss religion or spiritual beliefs as part of their training while other students
specifically voiced that these discussions are strengths of their respective programs.

According to students in this study, another helpful feature of their training program was
the internships. Here students personally witnessed a variety of cases (including pregnancy
termination), patient personalities, and reactions to information. This especially helped them to
better understand patients’ backgrounds, emotions, and reasoning behind their decisions.

“I think just the counseling training itself is teaching you how to deal with people and how to
constantly put yourself in their place, and not be quick to judge or think ‘this is the right way’ or
‘this is the wrong way.’”

Finally, this study suggests that taking steps to prepare for the training program and
potential conflicts prior to entering graduate school is a significant way to minimize some of the
challenges and internal conflicts students might experience during the training process.
Implications for Future Research

From the relatively large number of students who responded with their personal experiences and eagerness to participate in this study, genetic counseling students experience a great deal of influence between their religious beliefs and genetic counseling training. More research is needed to explore this exchange and its impact on students throughout the training process. It is probable that students’ opinions change over the course of their training. Therefore, a longitudinal qualitative study over the course of two years would be of interest for the purpose of analyzing any sustaining and/or shifts in opinion.

This study also revealed there are many anticipated and/or experienced influences between students’ religious beliefs and their genetic counseling training – both positive and negative. Therefore, the information gathered in this study might be used as the basis for a larger quantitative study in order to identify trends. Comparing students who identify with an organized religious tradition with those who do not may result in findings that would encourage changes to the program curricula that would benefit a more general genetic counseling student population.

Limitations

As with most focused qualitative studies, the sample size was small and possibly biased because we only recruited individuals who experienced an influence between their religious beliefs and their training. We have no way of knowing how many current genetic counseling students self-identify with a religious tradition vs. how many of them have experienced this influence. Furthermore, because of the small sample size and potentially biased population we cannot use statistical analysis to predict how the themes presented in this study would transpire in a different sample. Also, our population was biased because only the students who responded
to the recruitment notice ultimately were among the pool of those randomly chosen to participate. Therefore, there was a bias from those willing to respond to the recruitment notice vs. students who may not have felt comfortable sharing their experiences. Finally, the lack of religious diversity in this sample may have contributed to some of the trends seen in this study.

All of the first-year students and half of the second-year students interviewed felt a “lack of experience” was a limitation in answering some of the interview questions. The first-year students reported a lack of experience in the following areas: discussing their religious beliefs with clinical supervisors and their limited experience counseling cases in their internships. Among the second-year students, many indicated that they had never experienced a truly challenging patient or case and identified this as a “lack of experience” in their interviews.

One student reported that her life circumstances during graduate school challenged her religious beliefs more than the training program curriculum. Another student reported that how she was raised was different from what was dictated by her religious tradition. Therefore, she felt some of her reported conflicts might in reality be due to how she was raised and not her religious tradition. As it was difficult for her to separate the two influences in her life on her training, this may have played a role in the responses gathered. Although it was clearly stated in the informed consent form and in the introduction of each phone interview that students’ identities would be kept confidential, a student expressed concern that classmates or faculty members might identify her in the presentation and publication of the study results. Therefore, there is a possibility that students may not have been entirely honest or detailed in their answers because they were concerned about the potential negative influence it may have on the remainder of their training and their future career.
Conclusion

Despite the above limitations, this study provides an overview of both the positive and negative influences anticipated and/or experienced between religious beliefs and the training of current genetic counseling students. While many of the students interviewed for this study anticipated and/or experienced conflicts between their religious beliefs and their genetic counseling training, surprisingly, all of the students also reported experiencing positive influences. Pregnancy termination was the most commonly reported issue causing conflicts both on religious beliefs and on the training process, however, a number of other conflicting factors were also revealed in this study. These included the non-directive nature of the profession, fear of stigmatization because of their religious beliefs, and the inability to practice religion because of the limited time available during graduate school. In particular, hostile comments about how religion does not have a place in the sphere of health care dissuaded students from sharing their thoughts with their genetic counseling community and in many cases may have tarnished their opportunity to mediate their personal biases during training.

Most students view their time spent in graduate school as an opportunity not only to learn about the practice of the profession, but also to address and possibly resolve any internal conflicts prior to graduation. Overall, the results of this study provide some evidence of the importance for program directors and faculty members alike to encourage students to explore their religious beliefs and personal biases during the course of their training. Discussions of ethically and morally challenging cases/issues in addition to awareness on behalf of the faculty during the training program are critical to improve the quality of genetic counseling professional training.
Finally, the interactions between students’ religious beliefs and their genetic counseling training is a vital part of the future of this field as the training program comprises the formative stage of a genetic counselor’s career. Each individual, in turn, impacts the genetic counseling community as a whole and may also influence their respective religious community members’ views on genetic counseling services. Genetic counseling students must feel comfortable exploring these influences and the potential impact on their counseling during training especially because these influences will extend into their future clinical practice. This study suggests that faculty members and clinical supervisors may consider being more aware of the internal conflicts and positive influences experienced by students who identify with an organized religious tradition. Further research would be beneficial to explore this influence and identify ways in which training programs can minimize the conflicts and promote the strengths of religious beliefs on these students and, consequently, on services received by genetic counseling patients in the future.

Acknowledgements

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References


Appendix A:

Recruitment Notice
Recruitment Notice
Dear Fellow Genetic Counseling Graduate Student,

Do you identify with an organized religious tradition? If so, have your religious beliefs influenced or been influenced by your experience with genetic counseling at any point during your graduate training?

If you answered YES, I invite you to participate in a research study entitled “An Exploration of the Interplay Between Students’ Religious Beliefs and Their Genetic Counseling Graduate Training.” This qualitative study will be based on a series of focused questions administered in a telephone interview with eligible respondents. I am conducting this study to meet the requirements for my Master’s thesis for the Brandeis University Genetic Counseling Program.

Study Purpose
This study is designed to explore the relationship between genetic counseling students’ religious beliefs and the training they receive while enrolled in an accredited graduate genetic counseling program. I am interested in learning how students think their personal religious beliefs have influenced their experiences with genetic counseling during graduate school. I also want to learn how these same students think their genetic counseling training has influenced their personal religious beliefs.

Eligibility Requirements
• Be a full-time graduate student currently enrolled in an ABGC accredited genetic counseling program.
• Self-identify with an organized religious tradition and have religious beliefs that have in some way influenced – or been influenced by – your experiences with genetic counseling during your graduate training.
• Have completed at least one clinical observation or counseling internship during your GC training.

Study Participation
Participation in this study involves an approximately 30-minute telephone interview during which I will ask a series of focused questions exploring your experiences and perspective regarding the relationship between your religious beliefs and your genetic counseling training experience. The interviews will be audiotaped; however, you will be assigned a random study ID number to protect your privacy and to maintain confidentiality.

To thank you for your time, all interviewees will receive a $25 gift certificate to Amazon.com

If you are interested in participating in this study, or would like more information, please email me at eshraghi@brandeis.edu by February 13, 2009.

Thank you!
Marjan Eshraghi, BS
Genetic Counseling student
Appendix B:

Interview Guide
Interview Guide

Opening Script
Hello. Thank you for your willingness to participate. I am conducting this interview to better understand the interplay between students’ religious beliefs and their experiences while training to become genetic counselors.

I will be tape recording the interview so that I do not miss any information. I am going to ask you a series of questions. I would like to begin by asking some demographic questions. After that, I will ask about how you feel your religious beliefs have influenced your experiences with genetic counseling thus far. Then I will ask about how you feel your experiences in the genetic counseling training program have influenced your beliefs. Please feel free to elaborate and to bring up anything you feel is important. There are no right or wrong answers. If you do not have an answer to a particular question or would rather not answer the question, just tell me and we can move on. Please remember that the interview is voluntary and we can stop or pause it at any time. The interview will take approximately 30 minutes. Your name will not be associated with any of the results of this interview. Do you have any immediate questions about the study or the informed consent form before we begin?

Background Questions
1a) Which genetic counseling program are you currently enrolled in?

1b) Are you a first or second year student?

1c) From the following list adopted from the NSGC’s Professional Status Survey, which racial or ethnic group do you identify with the most? I’ll read the list and just stop me when I reach the right choice: Caucasian, African-American, Asian, Hispanic, Native American, or Other (please specify)

1d) How old are you?

1e) Did you take any time off between completing your undergraduate degree and beginning the genetic counseling graduate program? If so, how long and what did you do?

1f) In which settings have you observed genetic counseling sessions as part of your graduate training? (i.e. prenatal, cancer, pediatric, non-traditional, specialty clinic, etc)

1g) In which settings have you independently counseled under supervision as part of your genetic counseling graduate training? (i.e. prenatal, cancer, pediatric, non-traditional, specialty clinic, etc)

1h) What religious tradition do you identify with?

1i) Using the scale of: strongly disagree, disagree, neither agree nor disagree, agree, or strongly agree, how would you rate the following statement? “I try hard to carry my religious beliefs over into all my other dealings in life.”
1j) Using the scale of: strongly disagree, disagree, neither agree nor disagree, agree, or strongly agree, how would you rate the following statement? “My whole approach to life is based on my religion.”

**Questions regarding the influence of religious beliefs on genetic counseling training experience**

2a) Prior to beginning the genetic counseling graduate program, did you think that certain aspects of your religious beliefs would influence your experience in the program? If so, please tell me about them – and whether you anticipated they would be positive or negative influences.

2b) Were you “correct” in your initial perception or have your thoughts about this changed since beginning graduate school? Please elaborate.

2c) Please tell me about a time when you felt your religious beliefs were helpful - or would have been helpful if you were observing - in counseling a particular patient or family.

   Probes: Central topic of discussion and issues surrounding the session

2d) Was this a unique case or do you foresee this happening in the future?

2e) Please tell me about a time you counseled a patient or observed a genetic counseling session that you found particularly challenging because of your religious beliefs.

   Probes: Central topic of discussion and issues surrounding the session; a patient with a different and/or strong religious or moral beliefs than your own

2f) Was this a unique case or do you foresee this happening in the future?

2g) Do you think that your religious beliefs will influence your choice of a career path within the genetic counseling profession after graduation? If so, please elaborate.

   Probes: clinical vs. non-clinical, pediatric, prenatal, cancer etc.

**Questions regarding the influence of genetic counseling training on religious beliefs**

3a) Prior to beginning the genetic counseling graduate program, did you think that certain aspects of the program might influence your religious beliefs? If so, please tell me about them.

3b) Were you “correct” in your initial perception or have your thoughts about either of these changed since beginning graduate school? Please elaborate.

3c) Which aspects of the genetic counseling training program do you feel have challenged your beliefs?

3d) Which aspects of the genetic counseling training program do you feel have strengthened your beliefs?

3e) Are there any aspects of the genetic counseling program or any specific cases you encountered during your training that you felt uncomfortable sharing with your religious community? If so, what are they?
3f) To what extent do you feel comfortable discussing your religious beliefs with your classmates? Faculty? Clinical supervisors? Patients?

We have now reached the end of the interview.
Do you have anything else that you would like to share today or any questions for me?
Thank you for your time.
Appendix C:

Informed Consent Form
Informed Consent Form

Title of Study: An Exploration of the Interplay between Students’ Religious Beliefs and their Genetic Counseling Graduate Training

Principal Investigator(s): Marjan Eshraghi
Department: Biology – Genetic Counseling
Phone No: (781) 736-3179  Fax No: (781) 736-3199

Subject’s Name: ________________________________________

PURPOSE OF STUDY:
This study is designed to explore the relationship between genetic counseling students’ religious beliefs and the training they receive while enrolled in an accredited graduate genetic counseling program. The purpose of this study is to explore how students perceive that their personal religious beliefs have influenced their experiences with genetic counseling during graduate school. Furthermore, this study will explore how these same students feel their genetic counseling training has influenced their personal religious beliefs. I am conducting this study to meet the requirements for my Master’s thesis for the Brandeis University Genetic Counseling Program.

STUDY DETAILS:
If you decide to participate in this study, I will arrange to interview you by telephone at a time that is convenient for you. The interview will take approximately 30 minutes and the questions will focus on (1) obtaining general information about your background and religious beliefs, (2) learning about the anticipated impact of your religious tradition on genetic counseling prior to your entering the genetic counseling program, (3) learning about the influence of your religious tradition on your genetic counseling training experience, and (4) learning about the impact, if any, of your graduate training on your religious beliefs. The interview will be audio taped.

Your participation is voluntary, and if you wish to stop the interview or withdraw from this study, you may do so at any time.

RISKS:
We do not anticipate any adverse reactions caused by the interview in this research project.

COST/COMPENSATION:
There is no cost for you to participate in this study. After completing the interview, you will receive a $25 gift certificate to Amazon.com via email.

PRIVACY/CONFIDENTIALITY:
Your confidentiality will be maintained during and following the completion of this study. You will be assigned a study identification number, and both the audiotapes and interview notes will refer only to this identification number rather than personal identifiers. The link between your study identification number and personal identifiers will be kept in a password-protected database, which only the Principal Investigator can access. All forms, collected information, transcripts, and audiotapes will be stored in a secure, locked cabinet, and only the Principal
Investigator will have access to them. All data, audiotapes, and written notes will be destroyed at the end of this study. If your comments are referred to in oral or written presentations of this study, you will not be referred to by name, nor will any information be shared that would enable you to be identified.

I have read and understood the above information, and I agree to participate in this research study.

Please sign here if you agree:

________________________
SIGNATURE OF SUBJECT / PRINT NAME

________________________
SIGNATURE OF PRINCIPAL INVESTIGATOR
Appendix D:

IRB Proposal
IRB Protocol

Date: January 7, 2009

TITLE
An Exploration of the Interplay between Students’ Religious Beliefs and their Genetic Counseling Graduate Training

STUDY PURPOSE
The aim of the study is to explore the interaction between personal religious beliefs and the genetic counseling training process from the perspective of genetic counseling graduate students. The purpose of the study is two-fold: (1) to explore the influence of personal religious beliefs on students’ experiences in the genetic counseling training program, and (2) to explore the influence of the training program process on students’ personal religious beliefs. I will recruit current genetic counseling students who identify with an organized religious tradition and invite them to share their perspective on how their religious beliefs have influenced their training and how their training has strengthened and/or challenged their religious beliefs. This will be done through a series of focused questions administered in a telephone interview with each subject. Ultimately, the results of the study may provide useful information in the future development of curricula for the directors and faculty of graduate genetic counseling training programs. The results of the study may also help increase the awareness and understanding of clinical supervisors who help train genetic counseling graduate students.

HYPOTHESIS
My hypotheses are that:
• A student’s religious beliefs have a positive influence on his or her experience in the genetic counseling training program, including experiences in clinical settings.
• The overall genetic counseling training process strengthens these students’ religious beliefs.

STUDY SPONSOR
Brandeis University Genetic Counseling Program

PRINCIPAL INVESTIGATOR’S QUALIFICATIONS TO DO THE RESEARCH
The principal investigator is a student in the Brandeis University Genetic Counseling Master’s Program and is conducting this research project as a requirement for the Master’s Thesis.

RESULTS OF PREVIOUS RELATED RESEARCH
Religion can be defined as an organized system of beliefs that enables a degree of intimacy with a higher power, sometimes referred to as God (Koenig, 2001). In the past, religion was simply not addressed within the public scope of health care. However, this is no longer true in today’s society. For example, the debate over the legality of abortion continues to play a prominent role in both state and federal politics since the Supreme Court’s historic ruling of Roe v. Wade in 1973. According to an article written regarding the debate over abortion in 2008, “the variety in opinion on the issue is reflected in the diverse views of religious groups” (Vestal, 2008). Simply put, the religious values of individuals within society guide the way in which the public ultimately addresses certain ethically challenging issues. The latest example of the tension
between the field of health care and religion is the enactment of statewide laws protecting health care providers from adverse consequences if they refuse care based on a violation of their religious conscience (Vischer, 2006). Other recent studies recognize religion as a crucial component in the lives of health care professionals and its consequent influence on both their jobs and their job training (Curlin, 2007). These studies attest to the acknowledgement of the emerging interaction between an individual’s personal religious beliefs and his or her professional life – including health care delivery.

Overall, genetic counselors exhibit strong patterns of concern for the well being of others (Pirzadeh, 2007). They do this by bringing their personal values, in addition to their knowledge and experience, to each session, which influences the care they provide their patients (Abrams and Kessler, 2002). Beyond this, there is very little published information regarding genetic counselors’ personal values and how these values have impacted their work because the amount of research in the field is limited in part due to the profession’s novelty. However, it is ideal to explore the interplay between religious beliefs and health care delivery and training in genetic counseling because of the unique nature of the field. Genetic counselors are professionally trained to discuss both basic and complex genetic disorders and inheritance patterns while simultaneously providing psychosocial support to patients facing difficult decisions. These decisions are often initially introduced because of acquired genetic information and the outcome of the decisions themselves can be directly influenced by the patient’s values, which are often defined by their religion and religious beliefs.

Genetic counseling graduate students may more acutely experience the tensions – both positive and negative – between their religious beliefs and the field of genetic counseling based on their recent immersion into the field during their graduate training. Students’ personal and religious values may serve as motivational resources for their professional actions in the future as well as their perceptions of the genetic counseling field including their own experiences within the training process. Therefore, it is critical to take these values into consideration when working with these students and when developing program curricula so that students’ personal religious beliefs do not negatively influence provider-patient interactions. Training, in particular, can drastically reduce or eliminate the feared misperception that a counselor's personal beliefs are always imposed on the counselee during a session (Kessler, 1992). Therefore, the results of the proposed study may provide useful information for genetic counseling program directors to prepare their students, especially those who identify with a religious tradition, to better manage this interaction. The study may encourage program directors to focus on training genetic counseling students as reflective practitioners, as suggested by Pirzadeh et al., 2007, in order to help them develop the tools necessary to continuously assess their personal values and reflect on their interactions with patients. The study may also increase the awareness and understanding amongst clinical supervisors who help train genetic counseling graduate students. These improvements may then enhance the training process experience for these graduate students and consequently improve the quality of patient care in the field of genetic counseling in the future.

SUBJECT CHARACTERISTICS
The subjects will be recruited directly from graduate genetic counseling training programs that are accredited by the American Board of Genetic Counselors (ABGC), excluding the Brandeis University Genetic Counseling Program. They will be currently enrolled, full-time graduate
students who identify with an organized religious tradition and agree that their religious beliefs have influenced and/or been influenced by their experiences in the genetic counseling graduate training program.

SUBJECT INCLUSION/EXCLUSION CRITERIA
To be included in the study, the subject must:
- Be a full-time graduate student currently enrolled in an ABGC accredited genetic counseling program (excluding the Brandeis Genetic Counseling Program).
- Self-identify with an organized religious tradition.
- Agree that their religious beliefs have influenced and/or been influenced by their experiences with genetic counseling during their graduate training.
- Have completed at least one clinical observation or internship during their genetic counseling graduate training.

JUSTIFICATION FOR USE OF ANY SPECIAL/VULNERABLE SUBJECT POPULATIONS
N/A

STUDY DESIGN
This is a qualitative study designed to explore the interplay between students’ religious beliefs and their experiences while in training to become a genetic counselor.

Study participants will be recruited via an email forwarded to all current genetic counseling students (excluding Brandeis University Genetic Counseling Graduate students) containing the study recruitment notice (Appendix I). The recruitment notice will invite students who self-identify with a religious tradition and agree that their training has been impacted by and/or has influenced their religious beliefs, to contact me by email. I will email the respondents asking for a mailing address in order to send the informed consent form to them. I will ask the subject to read, sign, and return the informed consent form to me in a preaddressed stamped envelope that I will include in the initial packet. I will invite the subject to contact me by email if they have any questions or concerns about the form prior to signing it. After I receive the subject’s signed consent form, I will schedule a time with them for the telephone interview. I will then conduct a telephone interview with each subject individually at the pre-arranged time using the questions on the interview guide (Appendix II).

All interviews will be audio taped, transcribed, and analyzed using the ATLAS software to gain a more in-depth understanding of the relationship between genetic counseling students’ religious beliefs and their clinical and training experiences with ten genetic counseling students.

STUDY PROCEDURES
Recruitment
Judith Tsipis, PhD, the Director of the Genetic Counseling Program at Brandeis University, will email the recruitment notice to the directors of all ABGC accredited genetic counseling training programs on 1 February 2009. In the email, Dr. Tsipis will ask the directors to forward the recruitment notice to those students currently enrolled in their respective programs. Students
interested in participating in the research study will be asked to contact me directly for more information. I plan to conduct a total of ten interviews. If more than ten eligible students are interested in participating in the research study, I will randomly select participants from the pool of those who meet the eligibility criteria. If I receive fewer than ten participants by 13 February 2009 from the first email, I will ask Dr. Tsipis to resend the recruitment notice to the program directors to forward to their students again. If the response rate is still less than ten eligible students, I will simply conduct the interview with all eligible respondents and will note this as a limitation in the final analysis of the study.

**Data Collection**

Data in the study will be collected during an approximately 30-minute telephone interview conducted individually with each subject. The telephone interview will be audio taped and the questions will be both closed and open-ended. The questions are designed to explore students’ religious beliefs, anticipated challenges and/or influences prior to entering graduate school, and the interplay experienced while in graduate school between their religious beliefs and their genetic counseling training.

During all the interviews, I will follow the questions on the Interview Guide (Appendix II) with additional probes as written, if needed. The ethnic categories listed in question 2a have been adopted from the National Society of Genetic Counselors’ Annual Professional Status Survey (NSGC, 2006). Furthermore, questions 2d and 2e on the interview guide have been adopted from Hoge’s Intrinsic Religious Motivation Scale, which assesses the extent to which an individual embraces his or her religion as a guiding and supportive element in his or her life (Hoge 1972). These statements have been extensively validated in previous studies (Curlin et al., 2007).

**Data Analysis**

The audiotapes from the interviews will be professionally transcribed and I will conduct a descriptive data analysis using the ATLAS software. The potential themes I foresee coding for include: anticipated conflicts, anticipated benefits, unanticipated conflicts, unanticipated benefits, positive influences experienced, and challenges experienced. I also anticipate new emerging themes to surface during the interviews and therefore will consider alternative interpretations and will make appropriate revisions throughout data analysis.

**INFORMED CONSENT**

I will mail the informed consent form (Appendix III) to students who meet the eligibility criteria and are interested in participating in the study. I will ask the student to read, sign and return the consent form to me. I will have the subject contact me by email if they have any questions or concerns prior to signing the consent form and will also review the form briefly with the subject at the beginning of the phone interview if they request further clarification. Once signed, I will ask each subject to fax a copy of the consent form to me if they have access to a fax machine. I will also provide him/her with a preaddressed, stamped envelope so he/she can return the original signed consent form to me. Upon receipt of the signed consent, I will sign as the Principal Investigator, and will provide the subject with a copy of the signed informed consent form via mail. I will contact the subject to schedule the telephone interview only after I receive their signed informed consent form.
ADVERSE EVENTS
I do not anticipate the study to cause any psychological and/or emotional stress.

COMPENSATION
All subjects who complete the telephone interview will receive a $25 gift certificate to Amazon.com via email.

PRIVACY/CONFIDENTIALITY
All of the information collected from the study participants will be kept confidential. Upon receipt of each signed consent form, I will assign a random number to each subject and will record it in a separate password protected Microsoft Excel database to which I will have sole access. This document will be the only link between the subject’s identifying information and his/her randomly assigned number. From this point forward, all corresponding documents will only contain the subject’s assigned number and no other identifiable information. Furthermore, the audiotapes, interview notes, and transcripts will be labeled with the study identification numbers rather than identifiers, and the subjects will be referred to only by their first name during the audio taped interviews.

I will delete the password-protected Microsoft Excel database upon the completion of the project (May 9, 2009). Both the hard copies and faxed copies of the consent forms in addition to the interview transcriptions and any notes taken during the interviews will be locked in a secure cabinet and I will destroy them upon the completion of the project. The audiotapes will also be kept in a locked cabinet and also will be destroyed at the completion of the study. Finally, all email communications between the principal investigator and all recruitment notice respondents will be deleted upon completion of the study.

COSTS
There will be no costs to study participants.

LIST OF REFERENCES


