

ORIGINAL ARTICLE

A qualitative study exploring LGBTQ genetic counseling students' relationships with peers and faculty in graduate school

Valerie Chu¹  | Kimberly Zayhowski²  | Cali-Ryan Collin³  | Nikkola Carmichael⁴ 

¹Department of Human Genetics, McGill University, Montreal, Quebec, Canada

²Department of Obstetrics and Gynecology, Boston University Chobanian & Avedisian School of Medicine, Boston, Massachusetts, USA

³School of Social Work, Simmons University, Boston, Massachusetts, USA

⁴Graduate Medical Sciences, Boston University Chobanian & Avedisian School of Medicine, Boston, Massachusetts, USA

Correspondence

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

Email: nikkola@bu.edu

Valerie Chu, Department of Human Genetics, McGill University, Montreal, Quebec, Canada.

Email: valerie.chu@mail.mcgill.ca

Abstract

Lesbian, gay, bisexual, transgender, queer/questioning, and other sexual and gender minority (LGBTQ) students in healthcare professional programs face discrimination in their training, leading them to hide their identities and hindering their ability to form as meaningful connections with their classmates and faculty as non-LGBTQ students. To date, no studies have been published characterizing the LGBTQ student experience in genetic counseling programs. However, other historically oppressed groups such as Black, Indigenous, and people of color (BIPOC) genetic counseling students report feelings of isolation and negative impacts on mental health due to their racial or ethnic identity. This study explored how LGBTQ identity impacted relationships between genetic counseling students and their classmates and faculty in graduate school. In this qualitative study using constructivist grounded theory, 13 LGBTQ students and recent graduates of Canadian and American accredited genetic counseling programs were interviewed via videoconferencing. Participants reported determinants in self-disclosing their LGBTQ identity to their classmates and faculty and described ways in which their LGBTQ identity impacted relationships with individuals in their training programs. In particular, many described an overall heteronormative training environment, a hesitation to disclose their identity to faculty due to the professional nature of the relationship, and a sense of isolation. Participants also described the ways in which intersecting minoritized identities impacted their experiences as an LGBTQ student. This research contributes to the minimal literature about LGBTQ genetic counseling student experiences and has implications for addressing cisheteronormative curricula and attitudes in genetic counseling programs.

KEYWORDS

diversity, education, genetic counseling, inclusion, LGBTQ, sexual and gender minorities

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

© 2023 The Authors. *Journal of Genetic Counseling* published by Wiley Periodicals LLC on behalf of National Society of Genetic Counselors.

1 | INTRODUCTION

Approximately 7.1% of adults in the United States openly identify as lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ) (Gallup, 2022). This number is increasing in younger generations, with about one in five adults in Generation Z openly identifying as part of the LGBTQ community; the increase in self-identified LGBTQ people is thought to largely be due to increased social visibility of the spectrums of gender and sexuality (Flores et al., 2016; Gallup, 2022). Per the National Society of Genetic Counselors' Professional Status Survey (2022), 4% of genetic counselors identify as bisexual and 2% as gay or lesbian, and additional genetic counselors identify as gender-diverse or self-described their sexuality; a significant proportion of the genetic counseling community identifies as LGBTQ (National Society of Genetic Counselors, 2022).

Lesbian, gay, bisexual, transgender, and queer/questioning genetic counselors have reported below-average satisfaction with inclusion efforts within the National Society of Genetic Counselors (NSGC) (The Exeter Group, 2021). Moreover, a study of genetic counselors and genetic counseling students demonstrated an overarching implicit bias against homosexuality, although less implicit bias compared with the general US population (Nathan et al., 2019). Recent research has shown that although genetic counselors report being comfortable with providing LGBTQ patients care, LGBTQ patients report experiencing discrimination in genetic counseling sessions (Valentine et al., 2023). The genetic counseling profession must examine how to better foster inclusive and safe environments for the growing LGBTQ community. In addition, increasing the comfort of genetic counselors with disclosing their own LGBTQ identity in professional spaces is likely to improve care for LGBTQ patients, many of whom are reluctant to discuss their identities with healthcare providers due to fear of discrimination (Ard & Makadon, 2016; Casey et al., 2019; Nama et al., 2017). LGBTQ individuals experience higher rates of stigma, prejudice, and discrimination that are associated with minority stress compared with non-LGBTQ individuals (Meyer, 2003, 2015). LGBTQ graduate students have reported experiencing harassment and microaggressions, including misgendering, outing, tokenizing, assumptions of heteronormativity, and failure by faculty to address sexual and gender minority issues or challenge harmful discourse (Atteberry-Ash et al., 2019; Bryan, 2018; Byers et al., 2020; Dimant et al., 2019; Wagaman et al., 2021). It is common for medical students with minoritized identities to face minority tax, defined as the burden of time and resources expected of people with minority identities to represent, advocate, and teach regarding their communities (Kamceva et al., 2022). Students may or may not choose to disclose their LGBTQ identity during school based on factors such as how much support they will receive from peers and faculty and fears of discrimination (Atteberry-Ash et al., 2019; Dentato et al., 2014; Dimant et al., 2019; Toman, 2019). However, not disclosing their LGBTQ identity may negatively impact the formation of social relationships, affecting both mental health and academic success (Dimant et al., 2019; Lapinski & Sexton, 2014; Toman, 2019).

What is known about the topic

LGBTQ students face discrimination in healthcare training programs, impacting their ability to form connections with faculty and fellow students. There is no published research on the experiences of LGBTQ genetic counseling students.

What this paper adds to the topic

This paper describes the experiences of LGBTQ genetic counseling students in graduate training, including factors that influenced decisions about disclosing their LGBTQ identities and ways in which programs reinforce a heteronormative atmosphere. Recommendations from this study aim to improve the inclusion of LGBTQ students in genetic counseling programs.

Although there is no published data on LGBTQ genetic counseling students' experiences, prior studies have found differences between how underrepresented and nonunderrepresented students experience genetic counseling programs. Black, Indigenous, and people of color (BIPOC) genetic counseling students have reported feeling that their racial or ethnic identity was either ignored completely or became their defining characteristic (Carmichael et al., 2020; Schoonveld et al., 2007), that they felt isolated during their training (Schoonveld et al., 2007), and that microaggressions from classmates and faculty led to a decreased sense of belonging in the profession (Alvarado-Wing et al., 2021; Carmichael et al., 2021). BIPOC students often feel obliged to educate their classmates about issues related to race and racism, which Olsen (2019) called a "conscripted curriculum," a phenomenon that has also been described among genetic counseling students (Carmichael et al., 2020). BIPOC students who were part of a diverse cohort made friends more easily and felt that they could be their genuine selves among underrepresented students (Alvarado-Wing et al., 2021; Carmichael et al., 2021; Schoonveld et al., 2007).

Understanding the experiences of LGBTQ genetic counseling students is important in enabling training programs to create supportive environments for this community. This qualitative study explores the ways in which genetic counseling students' LGBTQ identities impacted their relationships with classmates and faculty while enrolled in genetic counseling graduate school programs.

2 | METHODS

This study used qualitative semi-structured interviews to investigate LGBTQ genetic counseling students' experiences. A constructivist grounded theory framework was used in order to inductively analyze the data, as there is no current theory about the experiences of LGBTQ genetic counseling students' relationships in graduate school

(Chun Tie et al., 2019; Creswell, 2007). Constructivist grounded theory integrates the participants' and researchers' views with existing literature (Creswell, 2007). This is an effective design for studying social justice issues, such as the experiences of underrepresented groups, as it produces tools for analyzing processes in social problems (Charmaz, 2005).

This study was approved by the Faculty of Medicine and Health Sciences Institutional Review Board at McGill University. The supervisory committee included individuals with expertise in qualitative research and genetic counseling training; three members of the research team are part of the LGBTQ community.

2.1 | Participants

Eligible participants consisted of LGBTQ current students and recent graduates of Canadian and American accredited genetic counseling programs. Students who had spent at least 6 months in a genetic counseling program at the time of recruitment were eligible to participate in the study. Recent graduates were defined as part of the graduating classes of 2019–2021. Exclusion criteria included those who attended the McGill University genetic counseling program, where the first author attended school.

2.2 | Instrumentation

A semi-structured interview guide was developed based on a review of the literature regarding LGBTQ and BIPOC students' experiences within genetic counseling, medical school, social work, and counselor education programs. The interview guide was piloted with two LGBTQ genetic counselors.

The final interview guide included questions about how LGBTQ identities were disclosed to others, factors that impacted the decision to disclose, how LGBTQ identity affected relationships with classmates and faculty, the influence of intersecting identities, participants' sense of belonging in the profession, and sources of support. The interview guide was modified as the study progressed to include questions related to emerging themes.

2.3 | Procedures

Participants were recruited via email and social media. A recruitment email was sent to the Association of Genetic Counseling Program Directors to disseminate to their current students and recent graduates. A recruitment notice was posted on social media sites targeted to genetic counselors with LGBTQ and BIPOC identities. Participants were selected with the goal of maximizing the number of training programs represented; each was emailed a consent form to sign. Once consented, they were scheduled for a one-on-one interview. Enrollment stopped when there was a decline in emergent major themes.

Semi-structured interviews were conducted by the first author via Zoom, a secure video conferencing platform. Interviews were audio-recorded with consent from participants for transcription purposes and data analysis. Audio recordings were saved on the first author's password-protected laptop and folder, then transcribed by a professional transcription service. De-identified transcripts were used for data analysis.

2.4 | Data analysis

The data were analyzed using NVivo, a computer software program for qualitative data analysis. Within the frame of constructivist grounded theory, codes were assigned based on emergent themes in the data, such as concepts that occurred in multiple interviews (Charmaz, 2005; Chun Tie et al., 2019). The data were analyzed using a constant-comparative approach: As data were collected from each interview and coded, it was compared with previous codes and the codebook updated (Chun Tie et al., 2019). The analyzed data constantly informed each other as interviews continued and categories to bin thematically similar codes emerged (Charmaz, 2005). Five of the interview transcripts were independently coded by a second coder. Any discrepancies between the coders were examined and resolved through discussion. Quotes were edited to remove filler words such as "like" or "you know."

3 | RESULTS

3.1 | Participant characteristics

A total of 23 individuals contacted the first author indicating interest in the study. Participants were purposively selected from 13 distinct accredited training programs (12 American programs and one Canadian program). Participants' demographic information is described in Table 1; participants were asked to describe their LGBTQ and racial/ethnic identities in their own words and could include more than one identity. Participants' racial/ethnic identities were consolidated into broad categories to protect participant anonymity. The length of the interviews ranged from 31 to 61 minutes (median: 41 minutes).

3.2 | Themes and subthemes

Two themes and seven subthemes emerged. Theme one encompasses subthemes that influenced participants' decision to disclose their LGBTQ identity to their program faculty or classmates. These include *Barriers to disclosing LGBTQ identity*, *Assuming students are not LGBTQ*, and *Determinants in LGBTQ self-disclosure*. The subthemes in theme two describe the ways in which participants perceived that their LGBTQ identity impacted their relationships with classmates or faculty. These include *Othering and isolation*, *Role in educating*

TABLE 1 Participant demographic information.

	Number of participants (total n = 13)
Age (years)	
23–25	10
26–28	3
Gender ^a	
Cisgender woman	11
Cisgender man	1
Genderfluid	1
Questioning	1
Racial/ethnic identity ^a	
White	11
Black/African American	2
Asian	3
Sexual orientation ^a	
Bisexual	8
Queer	5
Gay	3
Lesbian	3
Pansexual	1
Not straight	1
Graduation year	
2022	9
2021	2
2020	2

^aParticipants were invited to provide multiple descriptors.

classmates, *Creating supportive training environments, and Intersecting identities.*

3.2.1 | Theme 1: Disclosure of LGBTQ identity

Subtheme 1: Barriers to disclosing LGBTQ identity

Participants considered multiple factors when choosing whether or not to disclose their LGBTQ identity to classmates and faculty. One consideration was the potential reaction to this information. One participant chose not to disclose her identity to all her peers because she did not know of any other LGBTQ individuals in her cohort and she did not “want to be the queer person in the class” or “have that stigma that can come with being queer” [P9]. Other participants gauged their peers’ views before disclosing their identity: “Some of the political opinions they had, knowing they were a little bit more conservative, or a little more religious, it makes me pause” [P5]. One participant first disclosed her LGBTQ identity to her BIPOC classmates and then carefully considered the response she might receive from the others:

After that, it was ... having discussions and getting a good gauge of where their political standing is and

what their views on diversity are, in a very subtle way. Just to gauge what their level of receptivity would be and if they would make it weird.

[P13]

When considering disclosing their LGBTQ status to faculty, participants assessed not only the reception they might receive but also whether disclosure was relevant or appropriate in this context. One participant said that their LGBTQ identity was not “an important piece of information for them to know” [P2] and another “felt like it wasn’t something that would be appropriate to share at that point” [P7]. Several participants cited the professional relationship with their faculty as a barrier to disclosure. One noted, “I have great relationships with my faculty, but they’re more professional relationships [than those with my classmates] and I don’t feel as much of a personal connection” [P8]. Another participant echoed this sentiment, saying, “You’re not really talking about your dating life with your professors. I don’t think I was necessarily holding back ... because it was a more professional relationship” [P9]. Another participant noted, “When we’re having those more formal interactions with faculty, I wouldn’t want them to know if I had a boyfriend either. So it also isn’t their business that I’m gay” [P4].

Some participants did not feel that there was space in the program to share their identity with their faculty. One participant recalled, “I didn’t know of any faculty that were queer, so that didn’t feel like something that felt natural to bring up” [P9]. Other participants described their LGBTQ identity as not being “something that comes out as naturally with faculty” [P6]. One participant felt that this was so “unnatural to share” [P7] that it created a barrier to discussing it with her queer classmate as well: “[It was] weird that we never talked about this with one another, which talks to how there was not a great space for talking about this” [P7].

Subtheme 2: Assuming students are not LGBTQ

Participants described a pervasive assumption that students were straight unless they disclosed their LGBTQ identity. One participant never found the right moment to disclose her identity to her cohort:

Classmates just assumed I was straight, especially because I had had boyfriends in the past and was in straight relationships in the past. So I think that was a factor of, well when do I correct people? That’s kind of an awkward conversation to have.

[P9]

However, not disclosing this information negatively impacted her. She described hearing statements such as, “I don’t know anyone that’s gay,” or, “I don’t have any gay friends,” and feeling uncomfortable:

In my mind I’m like, “You’re oblivious ...” Obviously there are people that you are friends with that must be gay, because you know X amount of people, statistically they’re in there. And I’m sitting there, in my

head and I'm like, "I'm your friend, I'm gay and you don't realize that."

[P9]

Another participant encountered a similar assumption of heterosexuality in clinic. She was asked more than once if she had a boyfriend, and "I was so taken aback that I said 'No,' even though I had a same-gender partner at the time" [P10].

Classwork related to LGBTQ topics seemed to assume that the students themselves did not identify as part of this community. One participant described a cultural competency assignment that "basically [asked] how you feel about LGBTQ people ... Well, as an LGBTQ person myself, I feel pretty good about them" [P2]. Although this participant appreciated that students were being taught to be better counselors to the LGBTQ population, some of the questions were "very obvious that they were asked for somebody who was not a part of the community, and if they were, it would be difficult to answer them without outing yourself" [P2].

Assuming that students were heterosexual could contribute to their discomfort in class. One participant who had not disclosed her identity to her program described how emotionally charged a class discussion was to her: "There was a [case study] about a gay minor, essentially, whether to out them to their parents, and I was so upset ... that if I speak it will be outing myself" [P4]. She felt that the faculty did not consider how uncomfortable the conversation could be for some students:

You put me in this situation. You've assumed that everyone is out to you. Like, if there was someone who was trans or non-binary in this class, that they've told you, and that no one here is questioning their gender ... or that the only person who's gay in this class you already know.

[P4]

Furthermore, this assumption led to LGBTQ students missing out on opportunities for support. One participant received information from her program faculty about a web-based LGBTQ genetic counselor group:

The problem with that is they only sent it to me. There are definitely some inherent assumptions being made, because I'm open about my identity, but it almost didn't occur to staff that maybe you should send that to everyone, because they might not tell you.

[P5]

Subtheme 3: Determinants in LGBTQ self-disclosure

All 13 participants disclosed their LGBTQ identity to at least one classmate during their genetic counseling training. Some participants entered their training in a visibly nonheterosexual relationship and introduced their partner during "first class-meeting sort of activities, along with anybody else's partners who came" [P3]. Other

participants described the disclosure occurring more gradually as they became acquainted with their cohort. One participant recalled, "We'd be gossiping about who we're dating" [P1], whereas others described disclosure during casual hangouts with their classmates, when discussing a new romantic relationship, or in "a normal conversation that you would have with any peer" [P6]. One participant recalled that, over time, "these conversations [around dating] happened"; she thought that this gradual disclosure to classmates as they were getting to know each other felt comfortable.

Disclosure to classmates was influenced by the relationships among them. For one participant, "the biggest factor [for sharing my LGBTQ identity] is just how close my classmates and I became so quickly in our first year" [P2]. Other participants were more selective or hesitant, opting to share their LGBTQ identity with only some members of their cohort or later in their training. One participant only disclosed her identity to classmates who were also in the queer community, and a BIPOC participant first disclosed to BIPOC classmates:

Not to say that one marginalized experience is transferable to another, but I certainly think there are parallels [between being LGBTQ and being BIPOC] and wanting to choose who to disclose things to and understand more why there might be hesitation in disclosing.

[P13]

Having an LGBTQ classmate facilitated disclosure for several participants. One participant recalled that she felt more comfortable disclosing because her classmate "had talked about her girlfriend openly, in front of our class. It lowered the barrier of where I had a sense of how people were going to react" [P4]. This classmate was the first person in her cohort to whom she disclosed her own identity: "I felt better about life and coming to terms with my own sexuality. It was very nice to have someone else to relate to and to talk to about it" [P4].

The decision to disclose their identity to faculty was based on multiple criteria. Some participants chose to make this disclosure during the application cycle. One discussed his identity during interviews because his career goals included "some sort of LGBT care" [P11]. Other participants decided whether or not to disclose their identity on a program-by-program basis. One participant mentioned her sexuality only "if they asked us to write a diversity essay" [P12]. Another disclosed her identity specifically to an interviewer whom she followed on social media and who she knew identified as part of the LGBTQ community. A third participant described a "pivotal moment" during the interview process when a faculty member asked her about an LGBTQ-related experience in her application materials:

That was the first question he asked me about, and he said, "Oh my gosh, that's so great. Can you tell me more about that? What were your goals?" Even though he didn't know when he asked that question how I identified, it was really nice to have someone

ask and be really excited about the answer ... That encouraged me in that moment to have that conversation. I almost got teary talking to him during the interview.

[P5]

Some participants disclosed their identities via coursework. For example, one participant selected a journal club article about LGBTQ counseling issues and cited her identity as a reason for her choice; she also shared her own experiences during discussions about queer issues or scenarios in class. Another participant created a presentation about healthcare for LGBTQ individuals.

The decision to disclose was also influenced by the environment created by program leadership. One participant said, "The program leadership was always very vocal about issues about diversity, equity, and inclusion. [This] made me feel comfortable that I would never be discriminated against" [P10]. The inclusion of class material related to LGBTQ issues indicated to participants that this issue was important to faculty and provided them with an opportunity to share their own perspectives. One participant stated,

[When having] classes on equity, diversity, or counseling diverse populations, I might bring my own experience or choose to disclose ... Generally, our professors bring it up themselves first, in terms of, "How do we support LGBTQ people in genetic counseling?" That's a good indication that those experiences are valuable.

[P6]

Some participants disclosed their LGBTQ identity only to specific faculty. One participant disclosed her identity to her program director: "She had asked me if I would be interested in having a certain diversity mentor. And so I think that she made it very purposely open-ended, just in case I had any invisible disabilities or diversity perspectives" [P13]. Another disclosed her identity in order to provide feedback about how the program could create mechanisms for future students to share their perspectives without outing themselves.

3.2.2 | Theme 2: Relationships with classmates and faculty

Subtheme 1: Othering and isolation

Participants described ways in which their LGBTQ identity led to feelings of isolation within their training program. Several participants were the only LGBTQ student in their program that they knew of. One participant described "constantly feeling kind of isolated" and feeling like "the freaking spokesperson" [P5]. Another participant who was not "openly out" said, "When you're with a lot of straight people, it can just feel a little bit othering to be part of a group, especially if a topic of queerness comes up ... It can feel a little isolating" [P7].

When participants attempted to share their experiences with classmates, they did not necessarily find the understanding they were hoping for. One participant described telling a classmate about derogatory comments she and her girlfriend experienced when they were out on a date; the classmate dismissed her complaint, saying, "Well you should've known that would happen. I mean you're in [this state], you should get used to that" [P3].

Some participants distanced themselves from classmates or faculty based on negative interactions. For example, after hearing about another student's experience with one staff member's "homophobia or transphobia," one participant felt "uncomfortable" and that she had to be "careful what I say, and they might react poorly, or they might say something super offensive" [P5]. Another heard classmates' negative comments about a queer alumna and realized, "Oh, OK. Not everybody's on board" [P9].

Participants highlighted the particular challenges that trans or nonbinary classmates might face. One participant described the frustration she felt at her classmates' reluctance to share their pronouns in class: "[I] explained, very, very clearly, multiple times, why it was important to share pronouns ... I think it took a year, like a solid year before any of them started using pronouns" [P5]. Another participant described the misgendering of a classmate:

We would have guest lecturers come in quite often and ... misgender [my trans classmate]. And this person was really good about just clarifying, "Oh by the way, my pronouns are this." ... And sometimes it would then happen again. And that's when I would feel uncomfortable for this person.

[P9]

Three participants specifically referenced an incident in which a practicing genetic counselor responded with "transphobic comments" [P10] on social media to a gender-diverse student's post about their pronouns. One participant recalled feeling hurt and isolated, particularly as someone who was not yet confident in their own gender identity:

Somebody from our genetic counseling community is being spoken to in a very terrible way and that hurt. I think on a deeper level too of, "Oh, maybe this isn't something that I'm ready to explore more in myself," not only because of how I feel about it, but because of the reaction that other people – other people who I look up to as mentors in the genetic counseling community – have reacted to this.

[P2]

She went on to comment that she did not feel that she could discuss her feelings with her classmates because they were not as personally impacted as she was.

Participants also reported ways in which the curriculum of the training program and norms of the profession felt othering. For example, one participant recalled learning how to draw pedigrees for LGBTQ couples and having the instructor remark that, "Some people won't include the partner on the pedigree because it's not biologically relevant if they've had a donor" [P5]. Another participant described a faculty member who spoke in a "really heteronormative way," despite her efforts to educate her about how to use less heteronormative phrasing:

When she's like, "And when little Jimmy grows up and when he meets a girl and has children, this is what the inheritance pattern would look like." And I would have conversations and be, "Hey, Jimmy might not want children, one, and Jimmy might not be interested in women either."

[P13]

Her frustration after these exchanges led her to limit her interaction with this faculty member to educational and career matters, even though she was her mentor: "If I ever so chose, I could also talk to her about more personal matters" [P13].

A third participant described how heteronormative professional expectations might harm LGBTQ students. She recalled how an "outdated perspective" of recommending "skirts and dresses" was communicated to her class: "'It's important to dress how you want to, but some places ... might not hire you based on if you dress more masculine.' What if I feel more comfortable dressing that way and now I'm nervous about it?" [P2].

Participants highlighted the need to integrate diverse perspectives into the curriculum. One participant described a list of suggested readings that the program provided as lacking diverse voices, thereby "perpetuating this curriculum, that is whitewashed, cisgender and heterosexual, [and] ableist" [P5]. She described her program's efforts as "checking boxes" rather than integrating these topics throughout the curriculum. Another participant similarly described her program's efforts as "a little bit hollow" [P4]; rather than "saying we respect everyone's pronouns" this participant would have liked to have learned about "different theories of gender and different ways that people might express their gender and their gender identity ... Some more foundational knowledge to go off of I thought would've been helpful" [P4].

Finally, some participants described a subtle but uncomfortable perception that their contributions from an LGBTQ perspective were negatively received:

Sometimes it's not in-your-face discrimination. It's not someone looking at you and saying I don't want to be around you for X, Y and Z reason. Sometimes it's just a feeling ... When I'm talking about being queer, I can feel the energy in the room change.

[P5]

Another surmised that,

I think people sometimes were uncomfortable and quiet because they feel like they don't know what to say. And I think those are times where sometimes I feel a little bit othered, because I wish more people in my cohort were involved in the conversation.

[P6]

Subtheme 2: Role in educating classmates

Participants described ways in which they educated their classmates about counseling LGBTQ patients. These included helping them learn gender-inclusive language, answering questions about providing care to LGBTQ patients, sharing resources such as support groups or organizations, showing them how to draw pedigrees for trans individuals, and sharing their perspectives as an LGBTQ person. Participants generally reported that they were happy to be the person that their classmates turned to for help, and that they did not "feel like it's a burden" [P3], especially when this did not occur in an "excessive and inappropriate way" [P1]. They noted the benefit to their classmates and the profession to be an individual who "thinks and acts maybe a little differently than the rest" [P6] and can "speak to things from a different perspective" [P8]. However, while it's "great ... to have that feeling of being included in the conversation and they want your input. But, I feel like [it's] ... emotional labor" [P8].

Subtheme 3: Creating supportive training environments

Participants had a range of experiences with inclusion and support in their training environments. Some programs seemed to focus more on recruiting diverse applicants than inclusion efforts for students; rather than "recruiting more diverse people to programs, you have to actually think about, are these welcoming places for those individuals?" [P7]. One participant was dismayed by her program director saying that people with marginalized identities should be expected to educate their peers: "Not only should we be educating, we should be nice about it. You know, calm, cool and collected while I'm educating you about my own identity. So it's certainly affected my perception of belonging" [P5]. Another participant recalled that when she had negative interactions with a clinical supervisor, they were brushed off by others in her program with the comment, "She's from a different time," which the participant described as "dismissive" [P11]. These thoughts were summarized by a third participant as follows:

Once you have diversity, you need to really caution yourself not to tokenize and to also be really engaged and including these voices and letting them speak up at the table ... Let them contribute what they want to contribute.

[P13]

Participants appreciated when their LGBTQ identity was not treated as their defining trait. One participant felt that within her cohort, “no-one’s ever talked about it, which is the way I think it should be,” as “it’s not the most important part of my identity” [P2]. Other participants discussed feeling supported by classmates who treated their LGBTQ identity as a casual or normal thing. When one participant submitted an assignment to her program sharing her LGBTQ identity, she appreciated that her program director commented positively on her assignment, but “didn’t try to have another conversation down the line that was unnecessary” [P2]. Another participant echoed a similar sentiment:

I don’t need it to be the focus of the conversation. Me being gay is not the one thing about me. There’s a lot of other things about me that I usually emphasize and being gay is just a part of it.

[P8]

Participants also appreciated when faculty took on the role of educating students about respecting boundaries and not tokenizing LGBTQ individuals’ identities. One recalled a faculty member cautioning students not to ask “classmates or colleagues who are of minoritized identities to be the one to also teach you things” [P1]. Another recalled her program director having “multiple conversations ... about the fine balance between supporting minorities, but also not making everything about their identities” [P13]. This resulted in her feeling “supported without being tokenized, which has been wonderful” [P13].

Some participants described positive experiences with allyship or support regarding their LGBTQ identity. In some cases, this came from program leadership. One participant’s program director created an anonymous reporting system so that any uncomfortable interactions could be reported without “retaliation against students” [P10] as part of a larger diversity effort. She described her program director as “very aware of the inequities that existed and was working really hard to make some small difference in them” [P10]. Another participant recalled her program director’s reaction to a disparaging post on social media, which included meeting with students to reinforce that the behavior was not acceptable and to offer support:

I felt like it was a walked the walk and talked the talk moment ... We keep having these classes about making sure that we’re respecting people and respecting peoples’ pronouns and then when this arises my program director did bring it up and did talk to us about how that’s not OK, and if any of you are feeling not OK because of that we’re here to help you.

[P12]

Participants also described classmates who were good allies. One participant recalled her class being “responsive, supportive, and

appropriate in how they ask questions and who they ask questions to” [P1]. Another participant felt “very accepted” among her classmates to whom she disclosed her LGBTQ identity: “They were really supportive while I was dating” [P7]. A participant who experienced a homophobic event in her personal life described how her classmates offered support: “I had so many people reach out, come over for wine nights, or just to watch a movie to help me take my mind off stuff” [P3]. She was pleasantly surprised by the level of support; while she had not expected “anybody was going to be antagonistic, but I also wasn’t expecting to leave this program with such a close group of friends” [P3].

Two participants told their classmates about homophobic interactions they observed in the clinic. One of the participants described their reactions as compassionate, commenting, “It would be a really hard situation to be in as a student, and also as someone who has a personal connection to it” [P8]. The other participant appreciated the opportunity “to vent about how it made me uncomfortable,” and noted that it was “really nice having my classmates to talk about that with” [P11].

Two other participants described classmates who were involved with task forces or focus groups centered on inclusion, equity, and belonging in the graduate program, a level of engagement that increased their sense of being supported. When one participant was preparing to lead a group about these issues for her genetic counseling program, her classmates wanted to be involved: “My classmates that have been a part of that, they’re cis-het. They’re not a part of the LGBTQ community, but they are very much passionate about helping create this program and move it forward” [P5].

Subtheme 4: Intersecting identities

Multiple social identities influenced the relationships that participants had with classmates and faculty. BIPOC classmates were viewed as sources of support for LGBTQ participants. One participant was able to speak with BIPOC classmates about “gaslighting and just problematic things that are said” [P5]. Another participant checked in with individuals in the cohort following hers “who identify with a minority either from a racial standpoint, or a disability standpoint, or a sexuality standpoint” to provide a connection for them with “someone who’s been there before” [P13]. One participant described the ways in which the faculty support for her racial identity reassured her that students’ other minoritized identities would also be supported. She recalled that the summer before she began training, the predominantly white faculty emailed all the students to express their support for the Black Lives Matter movement:

It made me, personally, just feel very safe because I know that it’s something that they very well could have just not said ... It just set this tone of, OK, they actually do care about individuals with minoritized identities, they make a point to share these things and extend resources ... which I was really impressed by.

It made me feel welcomed, ... Knowing, if something happens while I'm there, I know that they would actually be responsive to it.

[P8]

Participants with additional minoritized identities described both similarities and differences between those and being LGBTQ. One participant, who received accommodations for a learning disability, noted that the two identities were similar because, "Queer identities are often associated with feelings of shame or internalized homophobia, and I think it's the same with disabilities where you can feel shame about your disability" [P6]. In contrast, a BIPOC participant felt less irritated when classmates asked her questions about her LGBTQ identity than with questions about her racial identity; she attributed this difference to the comparative lack of resources about LGBTQ communities, "in comparison to being asked things about culture and race where it is exhausting and annoying because there's a plethora of things out there" [P1]. A participant who described herself as coming from a lower socioeconomic background and a disrupted home environment described the ways these experiences were similar and different from being LGBTQ. She did not feel like she "fit the bill" for either the socioeconomic or LGBTQ identity and could choose when to disclose this information. However, "my LGBT identity is something that's unfortunately just kind of easy for me to kind of blend in and not really have it be something that's very impactful in my life because for the most part I pass as straight, versus with the socioeconomic status and my family issues it's something where it's hard for me to talk about that stuff and not have it impact my life" [P12].

Participants described ways in which having multiple minoritized identities created additional burdens. One participant with a learning disability described the "chronic levels of stress" that accumulate from "those little mini moments of coming out, or those little mini moments of disclosing ... that you have a certain diagnosis" [P6]. Another participant noted: "My racial identity ... sometimes it butts heads with my sexual orientation" [P8]. When she was in a "white space," her racial/ethnic identity would stick out more, and when in a space with those who shared her racial/ethnic identity, "being queer is the part that sticks out more" [P8]. In addition, she felt the emotional weight of having to be the spokesperson for two different identities in the classroom.

4 | DISCUSSION

This qualitative study investigated the relationships between 13 LGBTQ genetic counseling students and their classmates and faculty during their time in graduate school. Participants in this study identified reasons for disclosing or not disclosing their LGBTQ identity in graduate school as well as an overall sense of a heteronormative culture in their programs. In addition, participants described ways in which their LGBTQ identity impacted their relationships with peers and faculty, and made recommendations for

ways in which genetic counseling programs could better support LGBTQ students.

4.1 | A reciprocal model of support and identity disclosure

Although LGBTQ individuals are sometimes grouped into binary categories of being "out" or "not out," the responses from these participants described disclosure as an iterative event, with sequential disclosure to some or all classmates and faculty over the course of their training. In their research about LGBTQ social work students, Dentato et al. (2014) described a *reciprocal model of support*, in which the degree to which students are "out" may impact the amount of support offered to them by their peers and faculty, but the support offered impacts the degree to which students are out. In other words, faculty members' assumptions that they know which of their students are LGBTQ may be a contributor to heteronormative assumptions and a failure to offer support and resources but also play a role in students' reluctance to disclose this identity to faculty.

Participants in this study described a sense of isolation and "othering" due to the heteronormative training environment. Being asked about romantic partners in ways that assumed a heterosexual relationship and reflected binary gender categories led them to question whether their identity would be accepted; prior research has shown that students' perception of support and discrimination are factors in decision-making around identity disclosure (Atteberry-Ash et al., 2019; Dimant et al., 2019; Toman, 2019). Participants were disappointed by discussions with faculty and classmates around LGBTQ identity. For participants in this study, factors that mitigated feelings of isolation included having known LGBTQ classmates, classmates with other minoritized identities, and classmates or faculty who were strong allies, consistent with prior studies showing that BIPOC genetic counseling students felt more comfortable in diverse cohorts (Alvarado-Wing et al., 2021; Carmichael et al., 2021; Schoonveld et al., 2007).

Environments that are not safe or comfortable for identity disclosure can negatively impact LGBTQ students' training. Valentine et al. (2023) showed that, from the patient perspective, genetic counselors do not routinely engage in practices that allow for LGBTQ identity disclosure in genetic counseling sessions, despite genetic counselors' reporting that they believe that their patients are comfortable disclosing their identities to them; a similar pattern may apply with students in graduate school. Prior studies have shown that medical students who chose not to disclose their identity to faculty members felt that they were more restricted or inhibited when forming strong relationships with them and lacked mentorship during their programs, creating inequities within the training environment (Dimant et al., 2019; Toman, 2019). To create a welcoming and supportive environment, Wagaman et al. (2021) recommend assessing the program's existing climate for LGBTQ students, having an LGBTQ presence at the administration and leadership levels, and sharing LGBTQ resources from the program or university

(Wagaman et al., 2021). Notably, these resources should be shared with all students, not only those who are openly LGBTQ. In addition, genetic counseling faculty and students should undergo anti-bias or LGBTQ-related training (Bryan, 2018); this should be from both the lens of LGBTQ patients and peers. For those students who are not comfortable disclosing their identity or experiences of discrimination, an anonymous feedback form could provide a means of sharing information about microaggressions or negative experiences they encounter while also limiting fear of retaliation (Bryan, 2018). By taking these steps, genetic counseling programs can strengthen support for LGBTQ students and provide a caring environment for them to disclose their identities if they choose to do so.

4.2 | Minority tax and LGBTQ students

Many participants in this study described contributing to the education of their classmates about caring for patients from the LGBTQ community, a minority tax (Kamceva et al., 2022) not similarly levied on their non-LGBTQ peers. This included both sharing their lived experiences as an LGBTQ individual and providing resources about pedigree nomenclature and inclusive language. Just as BIPOC genetic counseling students have described their conscription into educating their classmates (Carmichael et al., 2020), participants in this study described feeling like a spokesperson for their minority group and feeling obliged to teach their peers about caring for LGBTQ patients. Although some participants reported positive feelings when choosing to educate their classmates on LGBTQ topics, LGBTQ students should have autonomy in deciding whether to educate, and should have their perspectives valued when they offer to do so. Genetic counseling programs' small cohort size has been perceived to benefit students because it allows for individualized attention and mentorship between faculty and students (Pan et al., 2016). However, because genetic counseling programs are typically small, with an average of 10 students per cohort (National Matching Services Inc., 2022), LGBTQ students may find themselves as the only LGBTQ individual in their cohort and may therefore face more pressure to provide representation and teach their faculty and peers. Therefore, the overall effect of minority tax may be exacerbated for LGBTQ students in smaller cohorts.

To limit the minority tax on LGBTQ students, program faculty should intentionally incorporate topics related to LGBTQ identities in their curricula, along with other diversity, equity, and inclusion topics. Genetic counselors have reported desiring more training about LGBTQ topics (Berro et al., 2019; Nathan et al., 2019; Zayhowski et al., 2019) and curricula about being culturally responsive and recognizing one's own values and biases are in alignment with the Practice-Based Competencies for Genetic Counselors put forth by the Accreditation Council for Genetic Counseling (2019). As a baseline, case examples and standardized patients should include individuals who are not cisgender or part of heteronormative nuclear families (Valentine et al., 2023), and genetic counselors should not be assumed to be straight and cisgender, such as was described by

participants in this study. Identity topics should not be approached from a deficit model, where people of minoritized groups are viewed as different because their culture or identity is "deficient" compared with those in a majority group (Song & Pyon, 2008). Potential LGBTQ-related teaching topics include how gender-affirming care impacts cancer and cardiac risk assessments (Berro et al., 2019; von Vaupel Klein & Walsh, 2021; Zayhowski et al., 2019), how to approach gender inclusivity in prenatal practice (Ruderman et al., 2021), how genetics research can impact discrimination against LGBTQ people (Hammack-Aviran et al., 2022; Rajkovic et al., 2022), and how to draw inclusive pedigrees (Bennett et al., 2022).

4.3 | Study limitations

This is the first study to investigate LGBTQ students' relationships with their peers and faculty in genetic counseling graduate school. One limitation of this study is that individuals who had more extreme experiences with their program regarding their LGBTQ identities, whether positive or negative, may have been more likely to want to participate, compared with individuals who had a more neutral experience with their program. The study focused on current graduate students and recent graduates and does not capture past experiences of LGBTQ individuals who attended genetic counseling programs. Our study sample lacked gender diversity and no participants identified as asexual or intersex. Given the limited diversity of the sample, as well as the qualitative nature of this study, these results do not necessarily reflect the experiences of all LGBTQ genetic counseling students.

4.4 | Future directions

This study demonstrates the need for continued examination of LGBTQ students' experiences in the genetic counseling field. Additional studies using quantitative methods could capture further data regarding LGBTQ genetic counseling student experiences using larger sample size and more targeted inquiries. Future studies could specifically explore gender-diverse and intersex people's experiences in genetic counseling programs, as they may have experiences distinct from those who have diverse sexualities. The experiences of LGBTQ students in other training settings, such as clinical rotations, should be further examined. Characterizing the correlation between genetic counseling program size and relationships between students and faculty can also be considered. Last, the intersectionality between LGBTQ identities and other minoritized identities should be explored in more depth.

5 | CONCLUSIONS

This study explored ways in which having an LGBTQ identity impacted genetic counseling students' experiences in graduate

education. Participants described the complexity of disclosure to classmates and faculty as well as ways in which program faculty and students reinforced cisheteronormative program environments. We highlight recommendations for programs to increase the representation of LGBTQ identities in curricula and identify supports for LGBTQ students that should be shared with all students. Genetic counseling programs not only have the responsibility to recruit diverse students and faculty but also must ensure that training and professional environments are supportive and welcoming to all.

AUTHOR CONTRIBUTIONS

Valerie Chu confirms that she had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. All authors contributed to the study conception and design. Material preparation, participant recruitment, and data collection was performed by Valerie Chu. Data analysis was performed by Valerie Chu, with critical feedback from all authors. Valerie Chu, Nikkola Carmichael, and Kimberly Zayhowski wrote the first draft of the manuscript, and all authors contributed to revisions. All authors give final approval of this version to be published and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

ACKNOWLEDGMENTS

This study was completed in partial fulfillment of the requirements for the first author's Master of Science degree from McGill University. This study was supported by grants from the NSGC Student/New Grad Special Interest Group and the NSGC Education Special Interest Group as well as by the McGill Department of Human Genetics. The research team thanks Kayla Horowitz for her assistance with data analysis, the pilot interviewees for reviewing the interview guide, and the study participants for their time and perspectives.

CONFLICT OF INTEREST STATEMENT

All the authors declare that they have no conflict of interest.

DATA AVAILABILITY STATEMENT

Research data are not shared due to the remote risk of re-identifying a participant.

HUMAN STUDIES AND INFORMED CONSENT

This research study was reviewed and approved by the McGill University Institutional Review Board. All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. Verbal informed consent was obtained from all participants prior to their inclusion in this study.

ANIMAL STUDIES

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

ORCID

Valerie Chu  <https://orcid.org/0009-0008-5092-5307>

Kimberly Zayhowski  <https://orcid.org/0000-0003-1712-6403>

Cali-Ryan Collin  <https://orcid.org/0000-0002-6147-431X>

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

REFERENCES

- Accreditation Council of Genetic Counseling. (2019). Practice based competencies for genetic counselors. https://www.gceducation.org/wp-content/uploads/2022/10/ACGC-Core-Competencies-Brochure_15_Web_REV-6-2019.pdf
- Alvarado-Wing, T. E., Marshall, J., Best, A., Gomez, J., & Cragun, D. (2021). Exploring racial and ethnic minority individuals' journey to becoming genetic counselors: Mapping paths to diversifying the genetic counseling profession. *Journal of Genetic Counseling*, 30, 1522-1534. <https://doi.org/10.1002/jgc4.1419>
- Ard, K. L., & Makadon, H. J. (2016). *Improving the health care of lesbian, gay, bisexual and transgender (LGBT) people: Understanding and eliminating health disparities*. The Fenway Institute. <https://www.lgbtqihealtheducation.org/wp-content/uploads/Improving-the-Health-of-LGBT-People.pdf>
- Atteberry-Ash, B., Speer, S. R., Kattari, S. K., & Kinney, M. K. (2019). Does it get better? LGBTQ social work students and experiences with harmful discourse. *Journal of Gay & Lesbian Social Services*, 31(2), 223-241. <https://doi.org/10.1080/10538720.2019.1568337>
- Bennett, R. L., French, K. S., Resta, R. G., & Austin, J. (2022). Practice resource-focused revision: Standardized pedigree nomenclature update centered on sex and gender inclusivity: A practice resource of the National Society of genetic counselors. *Journal of Genetic Counseling*, 31(6), 1238-1248. <https://doi.org/10.1002/jgc4.1621>
- Berro, T., Zayhowski, K., Field, T., Channaoui, N., & Sotelo, J. (2019). Genetic counselors' comfort and knowledge of cancer risk assessment for transgender patients. *Journal of Genetic Counseling*, 29(3), 342-351. <https://doi.org/10.1002/jgc4.1172>
- Bryan, S. E. (2018). Types of LGBT microaggressions in counselor education programs. *Journal of LGBT Issues in Counseling*, 12(2), 119-135. <https://doi.org/10.1080/15538605.2018.1455556>
- Byers, D. S., McInroy, L. B., Craig, S. L., Slaters, S., & Kattari, S. K. (2020). Naming and addressing homophobic and transphobic microaggressions in social work classrooms. *Journal of Social Work Education*, 56(3), 484-495. <https://doi.org/10.1080/10437797.2019.1656688>
- Carmichael, N., Redlinger-Grosse, K., & Birnbaum, S. (2020). Conscripted curriculum: The experiences of minority genetic counseling students. *Journal of Genetic Counseling*, 29(2), 303-314. <https://doi.org/10.1002/jgc4.1260>
- Carmichael, N., Redlinger-Grosse, K., & Birnbaum, S. (2021). Supporting a sense of inclusion and belonging for genetic counseling students who identify as racial or ethnic minorities. *Journal of Genetic Counseling*, 30, 813-827. <https://doi.org/10.1002/jgc4.1381>
- Casey, L. S., Reisner, S. L., Findling, M. G., Blendon, R. J., Benson, J. M., Sayde, J. M., & Miller, C. (2019). Discrimination in the United States: Experiences of lesbian, gay, bisexual, transgender, and queer Americans. *Health Services Research*, 54(S2), 1454-1466. <https://doi.org/10.1111/1475-6773.13229>
- Charmaz, K. (2005). Grounded theory in the 21st century: Applications for advancing social justice studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research*. SAGE Publications.
- Chun Tie, Y., Birks, M., & Francis, K. (2019). Grounded theory research: A design framework for novice researchers. *SAGE Open Medicine*,

- 7, 205031211882292. <https://doi.org/10.1177/205031211882292>
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). SAGE Publications.
- Dentato, M. P., Craig, S. L., Messenger, L., Lloyd, M., & McInroy, L. B. (2014). Outness among LGBTQ social work students in North America: The contribution of environmental supports and perceptions of comfort. *Social Work Education, 33*(4), 485–501. <https://doi.org/10.1080/02615479.2013.855193>
- Dimant, O. E., Cook, T. E., Greene, R. E., & Radix, A. E. (2019). Experiences of transgender and gender nonbinary medical students and physicians. *Transgender Health, 4*(1), 209–216. <https://doi.org/10.1089/trgh.2019.0021>
- Flores, A. R., Herman, J. L., Gates, G. J., & Brown, T. N. T. (2016). *How many adults identify as transgender in the United States?* The Williams Institute. https://www.occhd.org/application/files/4716/2465/3651/Trans_Production.pdf
- Gallup. (2022). LGBT identification in U.S. Ticks up to 7.1%. <https://news.gallup.com/poll/389792/lgbt-identification-ticks-up.aspx>
- Hammack-Aviran, C., Eilmus, A., Diehl, C., Gottlieb, K. G., Gonzales, G., Davis, L. K., & Clayton, E. W. (2022). LGBTQ+ perspectives on conducting genomic research on sexual orientation and gender identity. *Behavioral Genetics, 52*(4–5), 246–267. <https://doi.org/10.1007/s10519-022-10105-y>
- Kamceva, M., Kyerematen, B., Spigner, S., Bunting, S., Li-Sauerwine, S., Yee, J., & Gisondi, M. (2022). More work, less reward: The minority tax on US medical students. *Journal of Wellness, 4*(1), 5. <https://doi.org/10.55504/2578-9333.1116>
- Lapinski, J., & Sexton, P. (2014). Still in the closet: The invisible minority in medical education. *BMC Medical Education, 14*(1), 1–8. <https://doi.org/10.1186/1472-6920-14-171>
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*(5), 674. <https://doi.org/10.1037/0033-2909.129.5.674>
- Meyer, I. H. (2015). Resilience in the study of minority stress and health of sexual and gender minorities. *Psychology of Sexual Orientation and Gender Diversity, 2*(3), 209. <https://doi.org/10.1037/sgd0000132>
- Nama, N., MacPherson, P., Sampson, M., & McMillan, H. J. (2017). Medical students' perception of lesbian, gay, bisexual, and transgender (LGBT) discrimination in their learning environment and their self-reported comfort level for caring for LGBT patients: A survey study. *Medical Education Online, 22*(1), 1368850. <https://doi.org/10.1080/10872981.2017.1368850>
- Nathan, M. L., Ormond, K. E., Dial, C. M., Gamma, A., & Lunn, M. R. (2019). Genetic counselors' and genetic counseling students' implicit and explicit attitudes toward homosexuality. *Journal of Genetic Counseling, 28*(1), 91–101. <https://doi.org/10.1007/s10897-018-0295-8>
- National Matching Services Inc. (2022). GC admissions match statistics. <https://natmatch.com/gcadmissions/statistics.html>
- National Society of Genetic Counselors. (2022). 2022 Professional Status Survey Executive Summary. <https://www.nsgc.org/Portals/0/Executive%20Summary%20Final%2005-03-22.pdf>
- Olsen, L. D. (2019). The scripted curriculum and the reproduction of racial inequalities in contemporary US medical education. *Journal of Health and Social Behavior, 60*(1), 55–68. <https://doi.org/10.1177/0022146518821>
- Pan, V., Yashar, B. M., Pothast, R., & Wicklund, C. (2016). Expanding the genetic counseling workforce: Program directors' views on increasing the size of genetic counseling graduate programs. *Genetics in Medicine, 18*(8), 842–849. <https://doi.org/10.1038/gim.2015.179>
- Rajkovic, A., Cirino, A. L., Berro, T., Koeller, D. R., & Zayhowski, K. (2022). Transgender and gender-diverse (TGD) individuals' perspectives on research seeking genetic variants associated with TGD identities: A qualitative study. *Journal of Community Genetics, 13*(1), 31–48. <https://doi.org/10.1007/s12687-021-00554-z>
- Ruderman, M., Berro, T., Torrey Sosa, L., & Zayhowski, K. (2021). Genetic counselors' experiences with transgender individuals in prenatal and preconception settings. *Journal of Genetic Counseling, 30*(4), 1105–1118. <https://doi.org/10.1002/jgc4.1394>
- Schoonveld, K. C., Veach, P. M., & LeRoy, B. S. (2007). What is it like to be in the minority? Ethnic and gender diversity in the genetic counseling profession. *Journal of Genetic Counseling, 16*(1), 53–69. <https://doi.org/10.1007/s10897-006-9045-4>
- Song, S., & Pyon, S. (2008). *Cultural deficit model* (Vol. 1–2). SAGE Publications, Inc. <https://doi.org/10.4135/9781412963848>
- The Exeter Group. (2021). *National Society of genetic counselors diversity, equity, and inclusion assessment: Report of findings and recommendations*. National Society of Genetic Counselors. <https://www.nsgc.org/Portals/0/Docs/Policy/JEDI/NSGC%20DEI%20Assessment%20Report%20of%20Findings%20and%20Recommendations%20-%20Executive%20Summary.pdf?ver=7yIXuQLddl61mqUlw2VVA%3D%3D>
- Toman, L. (2019). Navigating medical culture and LGBTQ identity. *The Clinical Teacher, 16*(4), 335–338. <https://doi.org/10.1111/tct.13078>
- Valentine, R., Mills, R., Nichols, T., & Doyle, L. (2023). Disclosure and comfort during genetic counseling sessions with LGBTQ+ patients: An updated assessment. *Journal of Genetic Counseling, 1*–13. <https://doi.org/10.1002/jgc4.1692>
- von Vaupel Klein, A. M., & Walsh, R. J. (2021). Considerations in genetic counseling of transgender patients: Cultural competencies and altered disease risk profiles. *Journal of Genetic Counseling, 30*(1), 98–109. <https://doi.org/10.1002/jgc4.1372>
- Wagaman, M. A., Alessi, E. J., Goffnett, J., Watts, K. J., Iacono, G., Thomas, D. S., Pacey, M. S., & Craig, S. L. (2021). Interrupting hetero- and cisnormativity in social work programs: LGBTQ+ student strategies for increasing inclusion. *Journal of Social Work Education, 57*(2), 342–356. <https://doi.org/10.1080/10437797.2019.1671261>
- Zayhowski, K., Park, J., Boehmer, U., Gabriel, C., Berro, T., & Campion, M. (2019). Cancer genetic counselors' experiences with transgender patients: A qualitative study. *Journal of Genetic Counseling, 28*(3), 641–653. <https://doi.org/10.1002/jgc4.1092>

How to cite this article: Chu, V., Zayhowski, K., Collin, C.-R., & Carmichael, N. (2023). A qualitative study exploring LGBTQ genetic counseling students' relationships with peers and faculty in graduate school. *Journal of Genetic Counseling, 00*, 1–12. <https://doi.org/10.1002/jgc4.1724>