

Sarah Lawrence College

DigitalCommons@SarahLawrence

Human Genetics Theses

The Joan H. Marks Graduate Program in
Human Genetics

5-2024

Exploring Diversity in Genetic Counseling: Experiences and Perspectives of BIPOC Faculty and Leadership

Dessiah Phillips
Sarah Lawrence College

Follow this and additional works at: https://digitalcommons.slc.edu/genetics_etd



Part of the [Adult and Continuing Education Commons](#), [Bilingual, Multilingual, and Multicultural Education Commons](#), [Educational Assessment, Evaluation, and Research Commons](#), [Educational Leadership Commons](#), [Genetics Commons](#), and the [Other Education Commons](#)

Recommended Citation

Phillips, Dessiah, "Exploring Diversity in Genetic Counseling: Experiences and Perspectives of BIPOC Faculty and Leadership" (2024). *Human Genetics Theses*. 124.
https://digitalcommons.slc.edu/genetics_etd/124

This Thesis - Open Access is brought to you for free and open access by the The Joan H. Marks Graduate Program in Human Genetics at DigitalCommons@SarahLawrence. It has been accepted for inclusion in Human Genetics Theses by an authorized administrator of DigitalCommons@SarahLawrence. For more information, please contact afreitas@sarahlawrence.edu.

**EXPLORING DIVERSITY IN GENETIC COUNSELING: EXPERIENCES AND
PERSPECTIVES OF BIPOC FACULTY AND LEADERSHIP**

Dessiah Phillips

April 2024

Submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Human Genetics
Sarah Lawrence College

TABLE OF CONTENTS

	Page
Abstract	3
Acknowledgements	4
Introduction	5
Background	6
Methods	11
Results	16
Discussion	28
Conclusion	32
Works Cited	36
Appendix	38

ABSTRACT

The underrepresentation of racial and ethnic minorities within faculty and leadership roles in genetic counseling programs highlights a critical gap in the field's commitment to diversity and inclusion. This sequential explanatory mixed-methods study investigates the experiences, challenges, and perspectives of Black, Indigenous, and People of Color (BIPOC) serving in these capacities. By examining responses from the faculty and leadership members across various genetic counseling programs, this research aimed to identify barriers to diversity and explore mechanisms for fostering a more inclusive environment. The findings revealed an underrepresented number of BIPOC individuals ($n \leq 3$) in leadership or faculty roles per genetic counseling training programs. Participants reported experiences of microaggressions, biases, and a lack of institutional support. Despite these challenges, the importance of mentorship and support networks emerged as a significant theme. This theme highlighted that mentorship and support enhanced professional growth and diversity within the field. This study underscored the need for genetic counseling training programs to implement targeted strategies for improving representation through inclusivity, early recruitment efforts, community engagement, and the development of formal mentorship programs. This investigation provides a foundation for understanding the experiences of faculty and leadership in genetic counseling programs.

Key words: Genetic Counseling Training Programs, Diversity, Inclusivity, BIPOC, Experiences, Faculty, Leadership

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to everyone who has supported me throughout the development of this thesis. Extend my heartfelt appreciation to my thesis mentor, Vinaya Murthy, for her mentorship and advice. Her knowledge, experiences and initial interest in this topic guided my thesis and gave it shape and direction. I am grateful for the opportunity I had to work together on this project.

I want to thank my thesis advisor, Janelle Villiers, whose guidance, expertise, and unwavering support have been invaluable to me. Her insights and encouragement kept me on the right path and helped me navigate through challenges.

Additionally, I would like to thank the Warren Alpert Foundation for their generous financial support. Their contribution allowed me to dedicate my time and resources entirely to this project, facilitating a thorough and focused research process.

Finally, I want to acknowledge and thank the survey and interview participants for their time and openness. Your honesty and willingness to share your experiences were vital to my research, and I could not have reached the same level of insight without your valuable contributions.

INTRODUCTION

The field of genetic counseling demonstrates a notable disparity in racial representation. The 2023 National Society of Genetic Counselors (NSGC) Professional Status Survey (PSS) found that only 11% of individuals from underrepresented ethnic background are represented in the genetic counseling profession. These genetic counselors from underrepresented backgrounds reported a range of ethnicities including Asian, Hispanic or Latinx, Middle Eastern or North African, Black or African American, American Indian, Alaskan Native or Indigenous Peoples of Canada, and Native Hawaiian or Pacific Islander.¹ The remainder of respondents self-identified as non-Hispanic White.²⁰ This demographic composition of the genetic counseling profession starkly contrasts with the landscape of the United States, where approximately 59% of the population is non-Hispanic White.²³

Despite ongoing efforts, underrepresented groups remain minimally present in the profession and highlights a persistent challenge in achieving a diverse and representative genetic counseling workforce.³ This disproportion underscores the urgent need to address and enhance racial representation within the genetic counseling profession, where diversity is crucial to equitable and effective delivery of genetic counseling services in the U.S.

To date, the idea of diversity as it relates to racial and ethnic disparities among faculty and leadership positions in genetic counseling training programs has not been previously investigated. This study aimed to explore the nature of diversity among non-White leaders and faculty members within genetic counseling programs. Additionally, this study examined factors that could increase representation of non-White individuals in all facets of the profession—from students and faculty to future genetic counselors and leaders. Through examining the current state and experiences of non-White faculty and leaders, this study aspired to explore diversity

and inclusivity in genetic counseling training programs to improve representation in the genetic counseling workforce.

BOOTH STATEMENT

I am interested in exploring what influences the experiences of individuals of color in faculty of genetic counseling (GC) programs and their decisions for staying in that role. I want to find out why, if at all, some GC programs are able to retain more diverse faculty, in order to discern what connection, if any, is present between diverse student populations and diverse faculty in GC programs.

BACKGROUND

To address the disparity in racial and ethnic representation within the genetic counseling profession, various initiatives have been implemented. These efforts aimed at fostering diversity and inclusion, enhancing cultural humility, and tackling the challenges associated with the recruitment and retention of underrepresented groups.^{4,5} Some of these efforts were targeted by the NSGC. In a statement regarding Justice, Equity, Diversity, Inclusion or J.E.D.I. on the NSGC website, the committee emphasized that they must promote “active participation and leadership of people with diverse identities, perspectives, and backgrounds” by starting within the genetic counseling profession.²¹ NSGC created a J.E.D.I. Action Plan in 2022, which is to be updated biannually to address recommendations to improve justice, equity, diversity, and inclusion initiatives over a span of three years. Some recommendations include developing a J.E.D.I.-related training program and resources for members, implementing a mentorship program, and creating tools and guides. Ongoing efforts include developing toolkits and measures to recruit and support minoritized communities.²²

Comprehensive toolkits that focus on cultural competency, dedicated task forces that target diversity policies, and structured mentorship programs have shown promise towards improving recruitment and retention rates in academic medicine.⁶ Despite these efforts, a significant gap persists for minority groups. A detailed study by Jeffe et al., 2018 on U.S. medical school graduates, which utilized a competing risks analysis, revealed that individuals from racial and ethnic minority backgrounds are notably less likely to achieve promotions within academic medicine and more likely to exit the field altogether. The institutional “climate”—encompassing the patterns of behaviors, attitudes, and feelings prevalent within an academic setting—and the concept of a “minority tax,” which refers to the additional burdens placed on underrepresented faculty, were identified as significant factors contributing to the disparities experienced by these groups.⁶ Although the study by Jeffe et al., 2018 highlights these issues, it lacks a discussion on specific early intervention strategies that could mitigate these challenges. This study emphasized the critical role of engagement and inclusion in impacting the attrition rates of underrepresented faculty. The absence of early intervention discussion suggests a crucial area for future research and action, pointing towards the need for academic institutions to develop targeted strategies aimed at promoting diversity and equity within their faculties.

The Harold Amos Medical Faculty Development Program (AMFDP, <https://www.amfdp.org/>), established with the goal of fostering faculty diversity and health equity, has played a pivotal role in the academic medical community.⁷ By providing funded scholar positions, the AMFDP has not only facilitated a supportive environment for underrepresented medical faculty but also offered extensive leadership and mentorship opportunities, designed to empower physicians to excel in their academic careers.⁷ Participants of the AMFDP, who benefitted from the guidance of experienced racially diverse faculty

members who have themselves confronted bias, have reported significant professional growth and increased resilience in facing institutional challenges. Although the program is not able to fully eradicate institutional bias, its comprehensive approach equips scholars with the necessary tools and resources to effectively navigate and address these barriers. While the AMFDP has made strides towards inclusivity, challenges persist in underscoring the need for ongoing evaluation and adaptation to foster an even more inclusive academic environment. The importance of institutional dynamics were demonstrated in this study by Guevara et al., 2018 and explored the experiences of underrepresented faculty in medicine. This study's results revealed that institutional leadership and the presence of a diverse faculty can significantly influence the environment of diversity and attract more minority faculty applicants. Their research also highlighted that geographical location and the ethnic composition of the communities surrounding the medical school influenced faculty applicants' decisions on where to apply and desire to stay. These findings underscore the importance of both institutional dynamics and local demographics in recruitment and retention efforts.

Peek et al., 2013 examined the importance of institutional dynamics through surveying underrepresented faculty in medicine. Their findings indicated that institutional leadership plays a pivotal role in shaping an environment conducive to diversity, which in turn, impacted the ability to attract more minority faculty applicants.⁸ Leadership actions included suggestions of inclusive policies such as strong recruitment/retention packages and using social networks to identify candidates, as well as fostering open dialogue about diversity issues and ensuring representation in decision-making processes. Furthermore, the presence of a diverse faculty itself was found to contribute positively to the institutional climate, enhancing the sense of belonging and community for all faculty members. This research also highlighted that the geographical

location of an institution and the ethnic composition of the surrounding communities significantly influence faculty applicants' decisions regarding where to apply and their desire to remain long-term.⁸ Factors such as cultural inclusivity, accessibility to cultural resources, and community engagement opportunities were noted as particularly influential. These findings underscore the multifaceted nature of recruitment and retention efforts, emphasizing the necessity for institutions to adopt a holistic approach that considers both the internal dynamics of the institution and the external characteristics of its local environment. Strategies to enhance these aspects could include strengthening community ties, promoting diversity within leadership roles, and actively working to create an inclusive campus culture. By addressing these key areas, academic medical institutions can improve diverse representation and ensure a welcoming environment for underrepresented faculty members.

There is a notable gap in research concerning the sense of belonging and inclusion among faculty and leadership in genetic counseling programs. The lack of data hampers the ability to draw conclusions or make direct comparisons with faculty dynamics in the medical field. Consequently, there is an urgent need for in-depth research focusing on the experiences of racial and ethnic minorities within the faculty and leadership of genetic counseling programs, particularly concerning issues of promotion, retention, and how diversity influences the educational environment. The interplay between faculty diversity and student diversity in genetic counseling programs remains largely unexplored. Mittman & Downs, 2008 assessed the diversity of the genetic counseling field in the past, present, and future and found that there is a need for research on the experiences of racial and ethnic minorities within faculty and leadership, including issues related to promotion, retention, and the impact of diversity on the educational environment.¹⁵

Despite advancements aimed at addressing underrepresentation, the genetic counseling profession still encounters significant obstacles in achieving greater diversity. This issue is highlighted in various research studies. For instance, a study by Carmichael et al., 2020 revealed that genetic counseling students who identify as racial or ethnic minorities often feel isolated and unsupported due to microaggressions and negative interactions in their academic and clinical environments.⁹ The study elaborates that these negative experiences extend beyond the classroom and into clinical rotations and professional events, further exacerbating the sense of exclusion among these students. Additionally, the concept of a "conscripted curriculum," as introduced in another study by Carmichael et al., 2021, adds another layer of complexity to the experiences of minority students. This term denotes the unwelcome expectation placed on minority students to educate their White peers about racial and ethnic issues, which can lead to frustration and burnout, as they are compelled to take on this educational role on top of their regular studies.¹⁰ Moreover, providing minority students with access to external resources, mentorship opportunities, and platforms to share their experiences without the added pressure of educating others are essential. These opportunities can help create a more inclusive atmosphere, supporting minority students effectively and fostering a more diverse and empathetic professional community.

The underexplored connection between faculty diversity and student diversity in genetic counseling further emphasizes the need for targeted research. Similar to findings in academic medicine, where faculty diversity has been shown to enhance student experiences and outcomes, it is plausible that genetic counseling programs could benefit from similar dynamics. However, without dedicated studies, any assertions regarding the impact of faculty diversity on student diversity and program outcomes in genetic counseling remain conjectural. Addressing this

research gap could provide critical insights into developing strategies that not only improve diversity but also enhance the overall educational experience in genetic counseling programs.

The purpose of this research was to examine racial and ethnic diversity within faculty and leadership roles in genetic counseling. This investigation sought to explore the experiences of individuals of color in these positions. This study aimed to understand and address the unique challenges and needs faced by these individuals. Knowledge gained from this study would be pivotal in providing recommendations for future research and establishing practical strategies to foster a more inclusive environment in genetic counseling programs.

RESEARCH QUESTIONS

- What influences the comfortability of individuals of color who are in faculty or leadership positions in GC programs?
- What is the relationship between diverse student populations and diverse faculty in GC programs?

METHODS

Method of Inquiry

The methodology employed in this study to investigate the experiences of individuals of color in faculty and leadership positions in genetic counseling programs involved a sequential explanatory mixed-methods approach. This approach combined both quantitative and qualitative research techniques to obtain a holistic understanding of the subject matter.

As a preliminary step to the research, information from the websites of genetic counseling programs were initially reviewed and organized into a table. Few details were

provided by program websites regarding the diversity of faculty and students. Therefore, a more focused single-question survey was developed and sent to the program directors of each genetic counseling training program in the United States. The survey was used to understand Black, Indigenous, and People of Color (BIPOC) representation that was not readily available from the website reviews or the initial demographic survey. This survey is listed as Appendix 2.

The first phase involved the distribution of a quantitative survey to gather essential demographic data and detailed information on the professional positions of the participants. This survey aimed to establish a baseline understanding of the representation and distribution of individuals of color within faculty and leadership roles across various genetic counseling programs. The survey included questions on faculty status, years of experience, mentorship, and perceptions of diversity within their institutions. This survey is listed as Appendix 1.

Following the quantitative phase, participants were recruited for the second phase of qualitative inquiries. Semi-structured interviews delved deeper into the personal experiences, challenges, and perspectives of the participants. This interview format facilitated open-ended questioning, allowing participants to share their stories and insights freely, while still guiding the conversation to ensure coverage of crucial aspects related to the research questions. Topics explored in the interviews included representation and inclusion, experiences of bias, mentorship roles, and suggestions for improving diversity and inclusion within the programs. The interview guide is listed as Appendix 3.

The study aimed to include a diverse range of voices by selecting participants from different geographical locations, types of institutions, and levels of experience. This diversity aimed to capture a wide array of experiences and viewpoints, thereby enriching the study's findings.

Data analysis for the quantitative component utilized statistical methods embedded in SurveyMonkey (comparison tables, word clouds, sentiment analysis) to identify trends and correlations, while the qualitative data from the interviews were analyzed using thematic analysis to identify common themes and narratives. This dual approach allowed for the triangulation of data, enhancing the reliability and depth of the study's conclusions. Overall, the sequential explanatory mixed-methods approach provided a balanced and in-depth exploration of the experiences of individuals of color in faculty and leadership positions within genetic counseling programs, offering insights that could inform strategies for improving diversity and inclusion in the field.

Data Collection

Initially, there was a thorough review of 54 accredited genetic counseling programs across the United States, excluding Canadian programs. A detailed search of program websites was performed to gather information on faculty and leadership composition. However, these websites often did not provide extensive details regarding the diversity of faculty or students, which presented a challenge in assessing the baseline diversity present within these programs. All available information on faculty and leadership was organized into a Microsoft Excel table that contained web addresses and email addresses of program directors to facilitate further communication and data collection.

This first evaluation was crucial for establishing a foundational understanding of the current landscape in genetic counseling programs. Following this, the survey and interview guides were developed. Data collection techniques including a 22-question survey designed to collect demographic and professional experience data, a one-question survey developed to account for representation of BIPOC, and a 21-question semi-structured interview format

intended to delve deeper into personal experiences and perspectives. Sarah Lawrence College Institutional Review Board (IRB reference number F_2023_5) reviewed and approved this study. The study was determined to be exempt from full IRB review, thereby affirming the ethical approach and safeguarding measures proposed for research participant interaction.

Both surveys were developed and hosted on SurveyMonkey (<https://www.surveymonkey.com/>). The primary survey comprised 22 questions utilizing various formats, including multiple choice, checkboxes, dropdowns, fill-ins, and 4-point Likert rating scales, to gain comprehensive insights into the experiences of faculty and leadership in genetic counseling programs. The secondary survey consisting of a single fill-in question was created specifically to assess the representation of BIPOC individuals within these programs, addressing a critical gap in existing research. Data was securely stored and encrypted in SurveyMonkey.

To encourage participation for the quantitative survey, respondents were offered the chance to enter a raffle for a \$25 gift card. Recruitment emails were sent to genetic counseling program directors, who were invited to participate and forward to their BIPOC faculty and leaders. Additionally, emails were sent to genetic counseling organizations associated with racially and ethnically diverse individuals, such as the Genetics Opportunities, Learning, Development, and Empowerment Network (GOLDEN, <https://www.linkedin.com/in/golden-genetics-aaa253212/>) and the Sociedad Profesional Latinoamericana de Asesoramiento Genético (SPLAGen, <https://www.linkedin.com/company/splagen/>) who support BIPOC students and professionals. Each email contained a study flyer to increase participant recruitment. A link to the primary survey, informed consent documentation for both the primary survey and interview component and contact information for any additional inquiries were included in the flyer.

Participants were informed through the consent form about the anonymity of their responses and the confidential handling of their data.

Concurrently with the primary survey distribution, the secondary survey was distributed, and semi-structured interviews were conducted. These interviews consisted of 21 questions spanning seven thematic areas related to participants' experiences in their current or former faculty or leadership roles within genetic counseling programs. A total of five individuals were interviewed via Zoom, with each session lasting between 40 and 50 minutes. To respect and value the time and contributions of interview participants, each participant was compensated with a \$40 gift card. All interviews were recorded, with participant names replaced with a unique identification number for confidentiality. Audio and video interviews were downloaded from the Zoom platform into a secure, password-encrypted folder in cloud. Transcriptions were made available for each interview to ensure thorough analysis and interpretation of the qualitative data gathered. This multi-faceted approach aimed to provide a holistic view of the diversity landscape within genetic counseling education and leadership, enhancing the study's depth and relevance.

Data Analysis

Data analysis was performed using Dedoose software (<https://www.dedoose.com/>), employing thematic and content analysis methods to identify patterns and themes within the interview transcripts. The process involved detailed readings of the transcripts to develop familiarity with the data and to organize initial reflections into categories. These categories were then rigorously examined and refined, ensuring they accurately represented the data and aligned with the study's objectives.

The analysis encompassed the development of a comprehensive deductive coding scheme informed by eight key themes pertinent to the study, including Identity and Representation;

Sense of Belonging/Comfort and Inclusion; Experiences with Bias and Microaggressions; Mentorship and Support; Institutional Policies and Climate on Diversity; Representation and Visibility; Recruitment and Retention Strategies; and Future Directions. These themes were developed from the interview guide topics and participant responses. This coding scheme served as a framework for systematically categorizing data and identifying recurring themes from interview questions and responses. The identified themes were cross-referenced with original data and research inquiries to uphold relevance and coherence throughout the analysis process. Iterative and thorough analysis techniques were employed to ensure the robustness of findings, their alignment with participant experiences, and their contribution to advancing understanding of diversity within genetic counseling programs.

Overall, the data analysis aimed at ensuring the findings were reflective of participant experiences and contributed to the understanding of diversity experiences within genetic counseling programs.

Both surveys, the interview guide and deductive coding themes for the interviews are included as Appendices 1-4 for review.

RESULTS

Quantitative Data

The initial survey aimed to assess the experiences of BIPOC individuals serving as leadership or faculty members in genetic counseling programs. This survey garnered 16 responses. Of these, 14 respondents identified as BIPOC, spanning ethnicities and races including Asian, Black/African American/African descent, Hispanic/Latine, and Asian Indian, listed from most to least frequent (Figure 1).

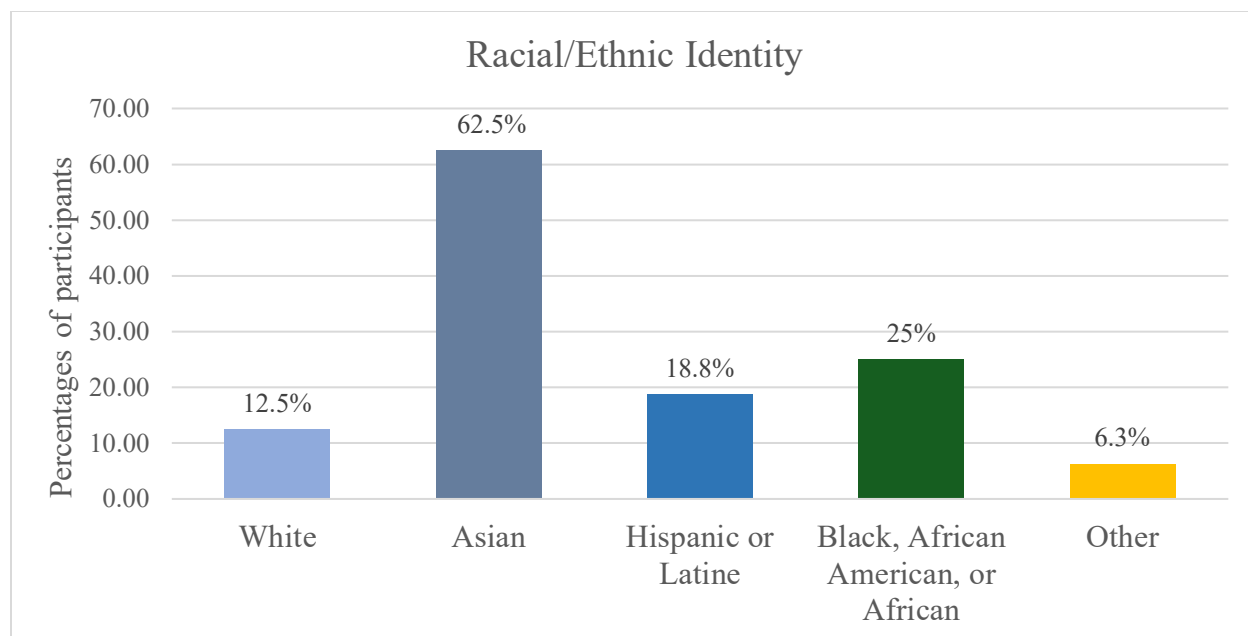


Figure 1. Racial/ethnic identities of survey participants. Some participants identified with two or more identities. The majority of participants identified as Asian.

The age range of respondents was between 25 and 54 years, with a majority being over the age of 35. Geographically, 37.5% (n = 6) of the participants were practicing in California, with the rest spread across New York, Massachusetts, Pennsylvania, Hawai'i, Idaho, and Texas. The responses came from individuals associated with 12 different genetic counseling training programs, with one respondent skipping this query.

In terms of roles, 14 respondents reported currently holding faculty or leadership positions, while two had previously held such positions. The educational requirement deemed necessary for these roles was predominantly a master's degree, as reported by nearly all respondents except one, who indicated a doctoral degree was required. The desirable qualifications for these positions included years of genetic counseling experience, board certification, teaching experience, and student supervision capabilities. The means of attaining their positions varied among respondents, including direct recruitment, online job postings, initial clinical genetic counselor roles, or inquiries about openings. The tenure in these roles was

less than five years for most, with three individuals serving for more than five years.

Approximately two-thirds of the respondents spent half of their time with students, while over 80% dedicated less than half of their time to diversity efforts within their roles.

The perceived value of their job responsibilities was reported to be high or somewhat high by the majority, with only one individual feeling undervalued. More than half of the respondents experienced microaggressions within their institutions. A unanimous view, except for one, was that individuals of color are underrepresented in the genetic counseling field. Opinions were divided on whether diversity is prioritized within the profession, with an equal split among respondents.

Regarding mentorship, 12 respondents were involved in mentoring students, five had mentors themselves, and three had neither. Unanimously, respondents affirmed the benefits of mentorship. All agreed that enhancing diversity among faculty and leadership could lead to a more diverse student body within genetic counseling programs. However, opinions varied on whether increasing student diversity would reciprocally increase diversity among faculty and leadership.

The survey concluded with an invitation to participate in follow-up interviews, to which 11 respondents expressed interest.

The second survey aimed at assessing the representation of self-identifying BIPOC individuals within the faculty and leadership of genetic counseling programs yielded 15 responses. These responses indicated a range of representation, with some programs having no BIPOC individuals in leadership or faculty positions, and others having up to 10 BIPOC individuals within their faculty (Figure 2). The mean number of BIPOC individuals represented within the programs was calculated to be approx. 2. This quantitative analysis suggests that, on

average, there are fewer than three BIPOC individuals in leadership or faculty roles within the surveyed genetic counseling programs.

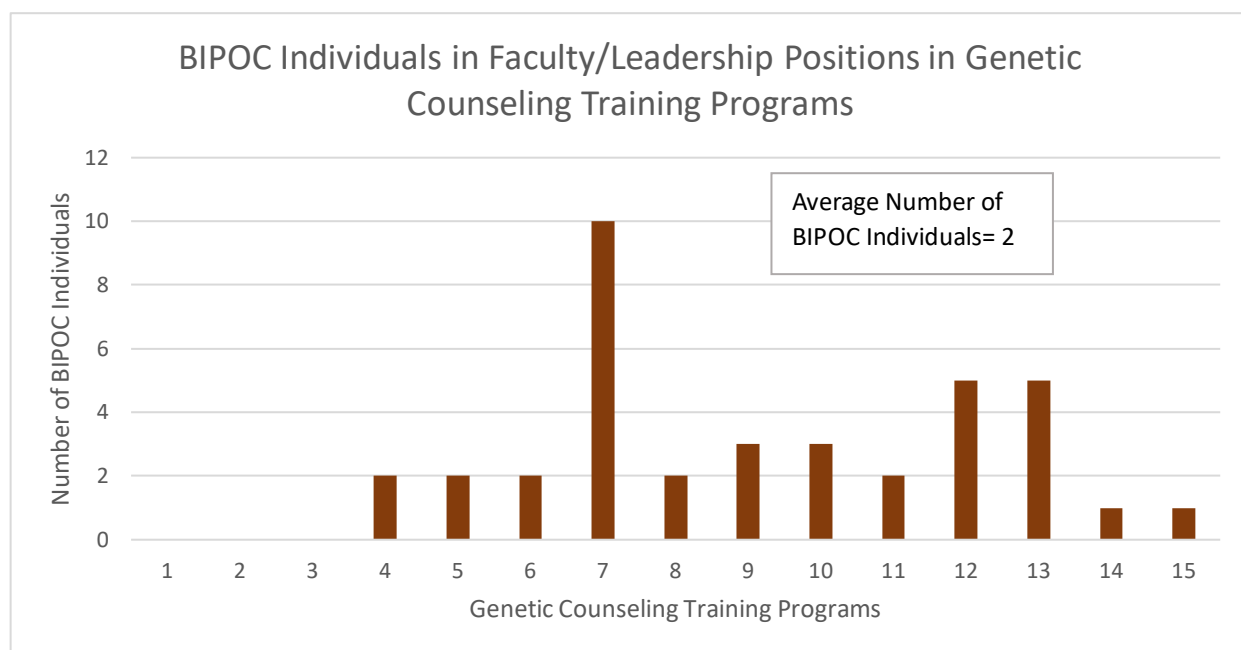


Figure 2. BIPOC Representation in genetic counseling programs in the U.S. Out of 15 responses, the average number of BIPOC individuals in a genetic counseling program is 2.

Qualitative Data

The interviews conducted with a diverse range of participants shed light on the experiences and challenges within the genetic counseling field. Eight deductive themes were seen across the data and included: Identity and Representation; Sense of Belonging/Comfort and Inclusion; Experiences with Bias and Microaggressions; Mentorship and Support; Institutional Policies and Climate on Diversity; Representation and Visibility; Professional Growth, Opportunities, and Responsibilities; Recruitment and Retention Strategies; Recruitment and Retention Strategies; and Future Directions.

Participant 1, identifying as Black, emphasized a sense of belonging within their department but highlighted broader institutional resistance and subtle biases. They stressed the

importance of mentorship and advocated for early recruitment strategies to increase diversity. Participant 2, identifying as a person of color, reflected on the stark disparities in experiences across different academic environments, emphasizing the need for systemic changes to enhance diversity and inclusivity. Participant 3, a cisgendered Black Ethiopian woman, discussed the impact of their visible identity on their professional journey and advocated for more inclusive policies and mentorship opportunities. Participant 4, identifying as South Asian and initially an international student, highlighted challenges they faced and the importance of authentic diversity efforts beyond superficial representation. Lastly, Participant 5, reflecting on their South Asian background, acknowledged improvements in diversity while advocating for proactive engagement, mentorship, and targeted outreach efforts to high school students to enhance representation within the field. These diverse perspectives collectively illuminate the complex landscape of diversity, equity, and inclusion within genetic counseling.

Participant 1 shared that their racial identity has not significantly influenced their professional journey within the genetic counseling department.

“I think my perspective is actually pretty unique because I don't feel like it has per se.

Not directly anyway.”

They reported a strong sense of belonging, attributed to the like-mindedness and personalities of colleagues. Despite this positive departmental atmosphere, Participant 1 noted challenges in broader institutional settings, where resistance and subtle biases were more prevalent.

“We're all in our different silos, having a sense of belonging outside of your department is just challenging. I think that there are a lot of people outside of our department that are set in their ways.”

“I think that when you're from certain groups, people just don't know, people just think that you don't know what you're doing. I think it's part of being from a racially underrepresented group, but it's also part of being younger.”

Regarding mentorship, Participant 1 described their involvement in mentoring students and participating in coaching courses, emphasizing the importance of these roles for people of color in a field with limited diversity.

“The field is so between the lack of diversity and how strict entry is, from having to take the boards to requirements in the types of jobs you could end up with, as well as the types of people that you're going to end up working with. I think the mentorship piece is really important. So people have some idea of what they're getting into instead of just going in blind.”

They remarked on the supportive nature of their department's leadership towards diversity initiatives but contrasted this with the broader institution's reluctance to embrace change. The participant discussed the impact of limited representation within genetic counseling, noting that the field's narrow focus tends to attract a homogeneous demographic.

“The field attracts white female personality A type overachieving individual.”

They suggested that recruitment strategies should begin earlier, targeting high school students to increase exposure among underrepresented groups. In terms of professional responsibilities, Participant 1 mentioned their engagement in administrative roles related to diversity efforts but noted a lack of involvement in the direct outcomes of these initiatives. They expressed a belief that enhancing student diversity is key to diversifying faculty and leadership within genetic counseling. Participant 1 emphasized that recruitment and retention strategies should extend

beyond the current faculty and focus on cultivating a diverse student body. They proposed community engagement and outreach as methods to improve student diversity.

"I personally think we need to recruit differently. Starting to recruit at the high school level would be one thing. Having our students donate their time and efforts to a neighborhood that would not be on the radar would be another thing. So we could create some sort of funnel system where we have a certain amount of students from diverse populations coming in."

This in turn could lead to a more diverse range of future faculty and leaders in the field.

Participant 2's reflections shed light on the disparities in their experiences across different academic environments. They recounted,

"In my first academic role, the lack of diversity and the microaggressions I faced were stifling, to the point where I had to leave for my own mental well-being."

Contrastingly, in their subsequent role, despite a similar lack of diversity in leadership, the more diverse composition of students and instructors made a significant difference. They remarked,

"It was refreshing not to feel like the sole representative of my race,"

underscoring the importance of a supportive community. The participant also delved into the systemic issues plaguing genetic counseling programs, emphasizing the urgent need for systemic changes to enhance diversity and inclusivity. They argued,

"Institutional racism is a pervasive barrier, deterring potential students of color from applying and contributing to a cycle of underrepresentation."

They called for increased awareness and action to ensure more inclusive environments, advocating for higher representation in leadership roles to address the challenges faced by students and faculty of color. They asserted,

"Having representation at the leadership level is critical, not just for the culture of the programs, but to address the ongoing issues of underrepresentation."

Furthermore, the participant highlighted the significant impact of faculty diversity on student recruitment and retention. They pointed out,

"Students are making choices based on the demographics of faculty and student bodies; a lack of diversity is a missed opportunity to attract a broader array of students."

They also emphasized the need for genetic counseling programs to create safe spaces for individuals of color to thrive and support a more diversified student body. Lastly, the participant addressed the economic challenges within the field, particularly concerning salaries and the feasibility of sustaining faculty positions, which are crucial for mentoring and teaching students. They concluded,

"If we want to diversify our programs and support students effectively, we need to ensure the financial viability of faculty roles in genetic counseling."

This detailed recount highlights the critical need for tangible changes in recruitment, retention, and representation within genetic counseling programs to foster a more inclusive, supportive, and diverse environment for future generations.

Participant 3 emphasized the impact of their identity on their journey in genetic counseling. They stated,

"I have certain identities that are not found in many other people in our profession, but I have certain identities that are very common in the profession- I am an immigrant to this country. I am black and very visibly so. And that makes my experience and how I navigate genetic counseling different than many other people in our field."

They highlighted feeling like they stand out due to their visible black identity within their program and program leadership. They expressed,

“In my role within the program and within program leadership, I definitely feel I stick out because there aren't that many other genetic counselors who are visibly, you know, black. So that makes me feel like I stand out, which is not something I'm personally comfortable with.”

Furthermore, they mentioned challenges in feeling a sense of belonging from their direct supervisor/manager/leader, stating,

“It is very difficult at times to feel like I am wanted in my role. So that has been a challenge.”

Regarding experiences with bias, Participant 3 recounted a situation where their integrity was questioned by a colleague, noting,

“So I received an email from somebody I work with questioning the accuracy of data I shared with the team- this individual insisted that there was something going on with my data. What it seemed to me was an inability to believe that the data could be showing good work and success- just basically questioning my integrity.”

They further elaborated on the confrontation with the colleague, expressing,

“I felt drained by this interaction because I shouldn't have to spend time and energy defending myself in the workplace, when I've provided all the evidence. I was made to feel like I didn't belong in the room and that they were calling me a liar. My resolve at the end was that nobody was going to push me out before I was ready to leave, and I will continue to defend myself if need be.”

They noted the absence of a formal mentorship program at their institution and expressed the importance of mentorship for BIPOC individuals.

"I think about how I would like to grow. I would like to continue to learn and having a mentor to provide that guidance or be a sounding board is something that I lack but I would love to have that."

Regarding diversity efforts, Participant 3 emphasized the significance of policy and expressed concerns about the gap between diversity recruitment efforts and actual inclusivity in the field.

"Policy is so very important in my experience and the experiences of other people who look like me."

Additionally, they highlighted the lack of representation negatively affecting the field, noting,

"There is a perception of who a genetic counselor is, you know, what they look like, how they should act, and that box is not inclusive of many different identities."

Participant 3 expressed optimism about improvements in diversity efforts and advocated for more diversity in program leadership. They stated,

"I would love to see more program leadership, like program director level, diversity. [Program directors] are very visible and have quite a bit of influence on how the program is shaped."

Participant 4 reflected on the challenges they faced as the only non-White student in their program.

"I was an international student so that had its own set of, I think, unique challenges."

Regarding their experiences with microaggressions, Participant 4 responded with a resounding yes, sharing a specific incident where a colleague implied that their leadership roles were solely due to their BIPOC status.

"She was kind of saying it to a group of people in a very joking way. And in the moment, and still today, I just honestly don't know how I would address it."

Furthermore, they recounted another disturbing encounter when a colleague expressed opposition to diversity initiatives, labeling them as a *"slap in the face to people who founded the genetic counseling profession."* This encounter was particularly shocking as it came from a younger colleague, challenging assumptions about inclusivity and tolerance. Despite these challenges, Participant 4 highlighted the importance of mentorship, noting that its value wasn't acknowledged until later in life.

"I have had 2 great mentors and try to pay it forward by mentoring students, especially BIPOC students and genetic counselors in the field."

In terms of diversity and inclusion efforts within the field, Participant 4 expressed concerns about the lack of genuine inclusivity beyond superficial representation.

"I think my problem more so with the field is not so much about the representation. I think we're good about getting people in through the door, but it's more about nurturing an environment that feels inclusive for them when they're there."

Lastly, they emphasized the importance of authentic dialogue and conversation, expressing a desire for genuine openness to diverse perspectives.

"The country and the world has caught on to this trend of having BIPOC individuals be the face representing their organization, no matter what their missions and values are... If you're truly open to diverse perspectives, be open to them and have conversations that are uncomfortable and have conversations that are authentic."

Participant 5 reflected on the evolving diversity within the genetic counseling field. While acknowledging the profession's historical lack of diversity, they noted,

"I've been in areas that are pretty diverse. I've been in the little diverse bubbles so I think my identity hasn't been impactful for me personally."

Regarding their experiences within their program, Participant 5 expressed gratitude for the program leadership's efforts in fostering a sense of community and belonging. They remarked,

"I've been quite lucky. My programs' leadership were very, very good about recognizing factors and making a good community and like a sense of belonging amongst the others."

In navigating instances of ignorance and bias, particularly from older faculty members, Participant 5 adopted a variety of responses, ranging from questioning comments to simply ignoring them.

"Ignorant comments from older faculty who are just like the ones who get away with it by saying 'I'm old school.' I would respond with 'I don't get [the joke].' or 'why is that funny?' Others I would just ignore because it wasn't worth my effort to call the person out."

Recognizing the importance of mentorship, Participant 5 highlighted the need for proactive engagement in making mentor connections.

"Mentorship is important; I had to make my own mentor connections."

Participant 5 also emphasized the importance of active engagement and involvement in professional activities to avoid being left behind.

"I think I've very much seen that if I don't go out of my way to do things or to involve myself in things, then it's very easy to get left behind."

Regarding the impact of representation within the field, they highlighted the potential for an echo chamber effect, limiting diverse perspectives and creativity.

"I feel like sometimes [the lack of diversity and representation] creates this echo chamber where people who have the same experiences are all talking about the same thing and value the same thing. And it doesn't allow for much more free thinking, like different ideas, like more creative thinking."

Lastly, Participant 5 advocated for increased awareness of the genetic counseling profession among high school students, emphasizing the need for targeted outreach.

"I do think there needs to be more targeted awareness of the profession in high school students."

The insights from the interviews offer an understanding of the complexities that exist for the faculty and/or leadership within the genetic counseling field. Across the narratives of Participants 1 through 5, common themes emerge, highlighting both progress and persistent challenges. While some individuals, like Participant 1, find a sense of belonging within their department, broader institutional barriers and biases persist challenging the efforts in diversity, as noted by Participant 2. Participant 3's experiences underscore the impact of visible identity markers on professional interactions, while Participant 4's encounters with microaggressions emphasize the need for genuine inclusivity efforts beyond surface representation. Participant 5's reflections shed light on the importance of proactive engagement and creative thinking in navigating the field's challenges.

DISCUSSION

The surveys and interviews conducted provide significant insights into the current landscape of diversity within genetic counseling programs, particularly regarding the experiences and representation of BIPOC individuals in faculty and leadership roles. While there appears to

be some level of BIPOC representation, with an average of fewer than three BIPOC individuals in such roles across the surveyed programs, the data suggests a need for increased diversity and inclusion efforts. The experiences shared by respondents highlight the multifaceted nature of the roles BIPOC faculty and leadership hold, alongside challenges such as microaggressions and the underrepresentation of people of color within the field. The findings highlight the importance of mentorship and the perceived benefits it holds for enhancing diversity. However, the split opinions on prioritizing diversity within the profession signal a crucial area for further exploration and action. Overall, these results call for concerted efforts to address barriers and foster an inclusive environment that not only values but actively enhances BIPOC representation and experiences in genetic counseling programs.

Identity and Representation

One of the central themes that emerged from the interviews is the significance of identity and representation within the genetic counseling profession. Participants shared their experiences as individuals from diverse racial and ethnic backgrounds, highlighting the impact of their identities on their professional journeys. For instance, Participant 1, who identifies as Black, emphasized a sense of belonging within their department but pointed out broader institutional resistance and subtle biases. Similarly, Participant 3, a Black Ethiopian woman, discussed feeling like a visible minority within their program and program leadership, emphasizing the importance of representation at all levels. These narratives underscore the need for greater representation and visibility of diverse voices within genetic counseling to create a more inclusive and welcoming environment for practitioners from all backgrounds.

Sense of Belonging and Inclusion

The interviews also shed light on participants' perceptions of their sense of belonging and inclusion within the genetic counseling field. While some individuals expressed feelings of belonging within their departments, others highlighted challenges in feeling accepted and valued. Participant 3, for example, mentioned difficulties in feeling wanted in their role within the program and program leadership, citing instances of bias and questioning of their integrity by colleagues. These experiences point to the importance of fostering a culture of inclusion and belonging within genetic counseling programs not just for students but for their leadership and faculty of , where individuals feel respected, supported, and valued for their unique contributions regardless of their background or identity.

Experiences with Bias and Microaggressions

Another significant theme that emerged from the interviews is the prevalence of bias and microaggressions within the genetic counseling profession. Participants shared their experiences of encountering subtle forms of bias and discrimination based on their race, ethnicity, or other identity markers. Participant 4, for instance, recounted instances where colleagues implied that their leadership roles were solely due to their BIPOC status, highlighting the insidious nature of microaggressions in perpetuating stereotypes and undermining the contributions of individuals from diverse backgrounds. These experiences underscore the need for increased awareness and education around issues of bias and discrimination within the academic spaces of genetic counseling field, as well as proactive measures to address and mitigate these harmful behaviors.

Mentorship and Support

Mentorship emerged as a key factor in participants' experiences within the genetic counseling profession. Many participants emphasized the importance of mentorship in providing guidance, support, and opportunities for professional growth, particularly for individuals from

underrepresented backgrounds. Participant 3 expressed a desire for mentorship to navigate their professional journey and lamented the absence of a formal mentorship program at their institution. Similarly, Participant 4 highlighted the value of mentorship in their own career and emphasized the importance of paying it forward by mentoring students, especially those from BIPOC backgrounds. These insights underscore the need for mentorship programs and support networks that are inclusive and accessible to individuals from all backgrounds, providing leadership and faculty of color with the guidance and resources they need to succeed in the field. However, due to the lack of diversity and representation, there are few opportunities for this type of mentorship. In the future, the hope would be for students of color to mentor those that come after them.

Future Directions and Implications

Overall, the findings from this study offer valuable insights into the complexities of diversity, equity, and inclusion within the genetic counseling profession. They highlight the importance of representation, belonging, and support in creating a more inclusive and equitable environment for practitioners from all backgrounds. Moving forward, it is essential for genetic counseling programs and institutions to take proactive steps to address issues of bias and discrimination, foster a culture of inclusion and belonging, and provide mentorship and support opportunities for individuals from underrepresented backgrounds.

Limitations

This study on the experiences of BIPOC individuals in genetic counseling programs presents several limitations that warrant consideration. The sample size, though diverse, remains relatively small and may not fully represent the broad spectrum of experiences within the genetic counseling community, potentially affecting the generalizability of the findings. Interpretation

bias may be a concern, as the qualitative analysis is subject to the researcher's personal biases and perspectives, which can influence the conclusions drawn from the data. Given that only one researcher reviewed the data, an alternate perspective is absent. The study's comprehensiveness and depth may also be constrained by the lack of input from individuals who either opted not to participate or were not informed about the research initiative. The reasons behind their non-participation, whether due to lack of awareness, disinterest, or reluctance to share personal experiences, contribute to a potential bias in the collected data. Consequently, this limitation highlights the necessity for broader outreach and engagement strategies in future studies to ensure a more inclusive and representative understanding of the genetic counseling field's dynamics and the diverse experiences of all its members.

Lastly, the study's focus is on faculty and leadership roles within genetic counseling which might not encompass the entire range of experiences of BIPOC individuals in the field, particularly overlooking those in non-leadership positions, students, or administrative roles. This is also true for individuals that contribute to the diversity within the genetic counseling field but do not fall into the BIPOC category, expressing diversity through sex, gender, sexual orientation, disability, and cultural background. These varied aspects of identity play a critical role in shaping the experiences and perspectives of professionals in the field, and by focusing on one aspect, a comprehensive understanding of diversity and its impact may be hindered. Acknowledging these limitations is crucial for understanding the context of the study's findings and for guiding future research directions to address these gaps.

CONCLUSIONS

This research paper has provided significant insights into the current state of racial and ethnic diversity within faculty and leadership roles in genetic counseling programs. By focusing

on the experiences and challenges faced by individuals of color in these influential positions, this study goes beyond the traditional approach and seeks to fundamentally improve the quality of genetic counseling education and practice by addressing specific needs and hurdles encountered by BIPOC individuals in faculty and leadership positions. The purpose of this investigation has been to examine racial and ethnic diversity within faculty and leadership roles in genetic counseling, displaying the challenges faced by these individuals.

Despite the lack of current research supporting the notion that the diversity of faculty and leadership within genetic counseling programs can significantly impact the educational environment and the recruitment of a diverse student body, there remains substantial potential for implementing analogous changes as mentioned in previous research studies, that would be supported by the findings of this study. By mirroring successful strategies from medical institutions, such as implementing inclusive hiring practices, fostering environments that value and enhance diverse perspectives, and establishing mentorship programs to support underrepresented individuals, genetic counseling programs can enhance their appeal to a broader range of faculty, leadership, and student applicants. Additionally, acknowledging and addressing the unique challenges and opportunities presented by the geographical location and community demographics surrounding these programs can further tailor recruitment and retention efforts to be more effective. Emphasizing cultural humility and the representation of BIPOC individuals within faculty and leadership roles supports the NSGC's J.E.D.I. statement, which promotes participation and leadership from people with diverse identities, perspectives, and backgrounds. Thus, by adopting and adapting some of these comprehensive strategies used by other healthcare faculty and leadership professionals in academic and clinical settings, genetic counseling

programs can improve their diversity, enrich the learning environment, and better prepare students to meet the diverse needs of the communities they will serve.

Recruiting and retaining individuals of color in the faculty and leadership of genetic counseling programs is crucial for promoting diversity in the profession and improving healthcare quality by reducing health disparities.¹¹ Investigations into nursing programs have resulted in the creation of strategies and toolkits to identify best practices and promote faculty diversity. One study aimed to enhance diversity in nursing programs by establishing mentorship programs, which provide vital support and guidance for faculty of color, fostering their professional growth and advancement within the institution.¹² The incorporation of inclusive hiring practices, such as forming diverse search committees and providing bias training for hiring personnel, has been effective in ensuring a fair and equitable recruitment process.¹⁷ Formal and informal networking opportunities, workshops on cultural competency, and policies that promote work-life balance and address systemic barriers have been beneficial.¹² Adopting similar strategies in genetic counseling programs could yield substantial benefits. Furthermore, engaging in continuous evaluation and adaptation of these diversity initiatives can help maintain their relevance and effectiveness, ensuring that genetic counseling programs can lead students in educational quality and inclusivity.

The findings from this study highlight the need for genetic counseling programs to continue to strive for diversity and adopt more inclusive practices and policies. By acknowledging and addressing the unique experiences of BIPOC faculty and leadership, we can identify ways in which to support their sense of belonging and inclusion, thus reducing any risk for attrition of BIPOC faculty and leadership with the hope of attracting more BIPOC students into the field and thus the profession. As this research concludes, it calls for a continued effort to

foster an environment that values diversity and inclusivity, paving the way for a more diverse, makeup of professional genetic counselors. It is the hope that the results of this study lay the groundwork for future research and in establishing practical strategies to support BIPOC faculty and leadership.

WORKS CITED

1. 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(6), 1522–1534. Portico. <https://doi.org/10.1002/jgc4.1419>
2. NSGC PSS Committee (2022). Professional Status Survey. National Society of Genetic Counselors. <https://www.nsgc.org/Policy-Research-and-Publications/Professional-Status-Survey>
3. Smith, S. C., Warren, N. S., & Misra, L. (1993). Minority recruitment into the genetic counseling profession. Journal of Genetic Counseling, 2(3), 171–181. doi:10.1007/bf00962078
4. Price, E., Robbins, S. J., & Valverde, K. (2020). *Increasing diversity in the genetic counseling profession: Development of recruitment tools for African American undergraduate students*. Journal of Genetic Counseling, 29(2), 224–233. doi:10.1002/jgc4.1280
5. Channaoui, N., Bui, K., & Mittman, I. (2020). Efforts of diversity and inclusion, cultural competency, and equity in the genetic counseling profession: A snapshot and reflection. Journal of Genetic Counseling, 29(2), 166–181. doi:10.1002/jgc4.1241.
6. Jeffe, D. B., Yan, Y., & Andriole, D. A. (2018). Competing Risks Analysis of Promotion and Attrition in Academic Medicine. Academic Medicine, 1. doi:10.1097/acm.0000000000002441
7. Guevara, J. P., Wright, M., Fishman, N. W., Krol, D. M., & Johnson, J. (2018). The Harold Amos Medical Faculty Development Program: Evaluation of a National Program to Promote Faculty Diversity and Health Equity. Health Equity, 2(1), 7–14. doi:10.1089/heq.2016.0022
8. Peek, M. E., Kim, K. E., Johnson, J. K., & Vela, M. B. (2013). “URM Candidates Are Encouraged to Apply: A national study to identify effective strategies to enhance racial and ethnic faculty diversity in academic departments of medicine.” Academic Medicine, 88(3), 405–412. doi:10.1097/acm.0b013e318280d9f9
9. 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(3), 813–827. doi:10.1002/jgc4.1381
10. 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. doi:10.1002/jgc4.1260
11. Nivet, M. A. (2011). Diversity in medicine: Confronting the elephant in the room. The Association of American Medical Colleges. Retrieved from <https://www.aamc.org/news-insights/diversity-medicine-confronting-elephant-room>
12. Rosseter R. (2023). Fact Sheet: Enhancing Diversity in the Nursing Workforce. AACN. <https://www.aacnnursing.org/news-information/fact-sheets/enhancing-diversity>
13. Darr K, McCarthy Veach P, Wurtmann E & LeRoy B. (2022). Effects of genetic counselor disabilities on their professional experiences: A qualitative investigation of North American counselors' perceptions. Journal of Genetic Counseling, 32(1), 235-249. <https://doi.org/10.1002/jgc4.1637>

14. Davenport D., et al. (2022). *Faculty recruitment, retention, and representation in leadership: An evidence-based guide to best practices for diversity, equity, and inclusion from the council of residency directors in emergency medicine*. West J Emerg Med. 23(1), 62-71. DOI: 10.5811/westjem.2021.8.53754
15. Mittman, I. S., & Downs, K. (2008). Diversity in Genetic Counseling: Past, Present and Future. *Journal of Genetic Counseling*, 17(4), 301–313. doi:10.1007/s10897-008-9160-5
16. Raphael J.L., et al. (2023). *Faculty perspectives on diversity, equity, and inclusion: Building a foundation for pediatrics*. *Pediatrics*. 151(4), e2022058394. <https://doi.org/10.1542/peds.2022-058394>
17. Schwartz, S. B., Smith, S. G., & Johnson, K. R. (2020). ADEA Faculty Diversity Toolkit: A Comprehensive Approach to Improving Diversity and Inclusion in Dental Education. *Journal of Dental Education*, 84(3), 279–282. doi:10.1002/jdd.12143
18. Sarmiento A. (2019). Genetic counseling training program admissions teams and racial and ethnic diversity: Surveying the gatekeepers. Brandeis University, Master's thesis.
19. Jean L. Raphael, MD, MPH; Gary L. Freed, MD, MPH; Steven B. Ampah, PhD; Heather Griffis, PhD; Leslie R. Walker-Harding, MD; Angela M. Ellison, MD, MSc. *Pediatrics* (2023) 151 (4): e2022058394. <https://doi.org/10.1542/peds.2022-058394>.
20. National Society of Genetic Counselors. (2023). 2023 Professional Status Survey. <https://www.nsgc.org/Policy-Research-and-Publications/Professional-Status-Survey>
21. NSGC Executive Office. (2024). Justice, equity, diversity and inclusion frequently asked questions. NSGC. <https://www.nsgc.org/POLICY/Justice-Equity-Diversity-and-Inclusion-JEDI/DEI-FAQs#:~:text=Within%20the%20%20membership%20and%20%20leadership,pursue%20%20equity%20in%20our%20%20profession.>
22. National Society of Genetic Counselors. (2023). J.E.D.I. Action Plan. <https://www.nsgc.org/JEDI>
23. U.S. Census Bureau. Census QuickFacts: United States. (2023). <https://www.census.gov/quickfacts/fact/table/US/PST045222>
- 24.

Appendix 1

The Experiences of Individuals of Color in Faculty and Leadership Roles of Genetic Counseling Programs

BIPOC stands for "Black, Indigenous, and People of Color," encompassing individuals and communities who are not part of the white racial group.

* 1. Do you identify as BIPOC in the field of genetic counseling?

- ☐ Yes, I identify as BIPOC.
- ☐ No, I do not identify as BIPOC.

* 2. How do you currently identify? Choose all that apply.

- ☐ White
- ☐ Asian
- ☐ Hispanic or Latine
- ☐ Black, African American, or of African descent
- ☐ Middle Eastern or North African (MENA)
- ☐ American Indian, Alaskan Native, or Indigenous Peoples of Canada
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Prefer not to answer
- ☐ Other (please specify)

* 3. Which age group best represents your current age?

* 4. What state do you currently practice in?

5. Which genetic counseling training program are you affiliated with?

* 6. Are you or were you ever a faculty member or involved in a leadership role within an accredited genetic counseling training program?

- ☐ Yes, I am currently a faculty member or involved in a leadership role in an accredited genetic counseling training program.
- ☐ Yes, I have been a faculty member or I was involved in a leadership role in an accredited genetic counseling training program in the past.
- ☐ No, I have never been a faculty member or held a leadership role in a genetic counseling training program.

* 7. If you currently hold or have held a faculty position, what were the educational criteria or qualifications necessary for you to secure your role?

- ☐ A masters degree
- ☐ A doctoral degree
- ☐ Certification by the American Board of Genetic Counseling (ABGC)
- ☐ Other (please specify)

* 8. If you currently hold or have held a faculty position, what were the professional criteria or qualifications necessary for you to secure your role?

9. How did you obtain your position in leadership or as a faculty member?

* 10. How long have you been or were you a faculty member or in a leadership position within an accredited genetic counseling training program?

- ☐ Less than 1 year
- ☐ 1-2 years
- ☐ 3-5 years
- ☐ More than 5 years

* 11. What is the proportion of time you spent with students in the past year?

- ☐ More than 75% of my time was spent with students.
- ☐ Approximately 50-75% of my time was spent with students.
- ☐ Less than 50% of my time was spent with students.
- ☐ None of my time was spent with students.

* 12. What is the proportion of time you spent on efforts to increase diversity within genetic counseling training programs?

- ☐ More than 75% of my time was dedicated to diversity efforts.
- ☐ Approximately 50-75% of my time was dedicated to diversity efforts.
- ☐ Less than 50% of my time was dedicated to diversity efforts.
- ☐ None of my time was dedicated to diversity efforts.

* 13. How do you feel your job responsibilities are valued by others?

- ☐ My job responsibilities are highly valued by others.
- ☐ My job responsibilities are somewhat valued by others.
- ☐ My job responsibilities are not valued by others.

* 14. Have you ever experienced microaggressions at your institution?

- ☐ Yes, I have experienced microaggressions at my institution.
- ☐ No, I have not experienced microaggressions at my institution.
- ☐ I prefer not to answer this question.

The upcoming questions will capture your responses using a scale ranging from strongly disagree to strongly agree. Please indicate the degree to which you agree or disagree with the following statements: (Strongly Disagree, Disagree, Agree, Strongly Agree)

* 15. Individuals of color are well represented in the genetic counseling field.

Strongly disagree	Disagree	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 16. Diversity is prioritized in the genetic counseling profession.

Strongly disagree	Disagree	Agree	Strongly agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 17. Please indicate the degree to which you agree or disagree with the following statements: (Strongly Disagree, Disagree, Agree, Strongly Agree)

	Strongly disagree	Disagree	Agree	Strongly agree
I have an amicable relationship with my coworkers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that my coworkers respect me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel appreciated within my position.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy my time spent in my position.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I do not receive satisfaction from my current position.

☐☐☐☐

I feel valued by leadership and faculty members.

☐☐☐☐

* 18. Do you have any mentorships? Select all that apply.

☐

I mentor (a) student(s)

☐

I have a mentor

☐

I do not mentor nor do I have a mentor

* 19. Do you feel that mentorship is beneficial?

☐

Yes, I think mentorship is beneficial.

☐

No, I don't think it is beneficial.

* 20. Increasing diversity within the faculty and leadership of genetic counseling training programs contributes to increasing the diversity of students within genetic counseling training programs.

Strongly agree

Agree

Disagree

Strongly disagree

☐☐☐☐

* 21. Increasing diversity of students within GC training programs contributes to increasing the diversity within the faculty and leadership of GC training programs.

Strongly agree

Agree

Disagree

Strongly disagree

☐☐☐☐

22. If you would be interested in participating in a 30 minute interview to talk about your experiences, please enter your email here.

Thank you for taking the time to fill out out this survey.

Appendix 2**The Representation of BIPOC in Genetic Counseling Programs in the US**

1. Could you please provide the number of your program's faculty and leadership who self-identify as BIPOC?

Thank you for your help in gathering this information!

Appendix 3

Interview Guide

Purpose of Study:

To investigate the experiences of BIPOC individuals in faculty and leadership roles within genetic counseling programs. This study will survey and interview individuals to gain understanding of the experiences of individuals of color in faculty/leadership positions and factors that influence comfortability (sense of belonging/inclusiveness) in GC programs. The findings may be used to understand how BIPOC individuals' experiences may differ and what, if anything, can be done to recruit and retain individuals of color in leadership positions, and increase recruitment of students of color in GC programs.

Research Questions:

- What influences the comfortability of individuals of color who are in faculty or leadership positions in GC programs?
- What is the relationship between students of color and faculty of color in GC programs?

Introduction (5 minutes)

- **Welcome and Introduction:** *Briefly introduce myself and the purpose of the study.*
- **Informed Consent:** *At the beginning of the interview, confirm if they have read the consent form and go over elements from the consent form (The interview will be video and audio recorded. You have the option to decline to answer any question you are not comfortable with, and you can terminate the interview at any time. Your identity will be kept strictly confidential in all aspects of this research study. No participant will be identified in any written or oral report resulting from this study. I will now assign you a participant identification number for confidentiality, you will be P#. Research members are the only people who will have access to your data and information will be stored securely until deletion following data collection. You will be compensated with a \$40 gift card for your participation in this study. Compensation should take approximately 2-3 weeks following completion of this interview.). Invite any questions they might have regarding the form or the interview process. Then, obtain verbal consent to proceed with the interview.*
- *Start recording and turn on transcript.*

Interview Questions (30-40 minutes):

1. Identity and Representation:

- How do you identify within the BIPOC spectrum?
- How has this impacted your journey in the genetic counseling field?

- Do you feel that individuals of color are well-represented in genetic counseling? Why or why not?
- How does this representation (or lack thereof) affect the field?

2. Comfort in Leadership Roles:

- Can you describe factors that have influenced your sense of belonging and inclusion with...
 - ⇒ peers within your genetic counseling program?
 - ⇒ program leadership within the genetic counseling program?
 - ⇒ administration (Chair, Dean, anyone attached to the institution and not the program alone) within the genetic counseling program?
 - ⇒ students within the genetic counseling program?
- How do institutional policies, culture, and colleague interactions impact your experience as a BIPOC faculty member?

3. Time Allocation and Responsibilities:

- How do you divide your time between various responsibilities, such as student interaction, diversity efforts, and administrative duties?
 - ⇒ Who decides the division of tasks?
- In your role, have you been involved in or affected by diversity and inclusion initiatives?
 - ⇒ How do these initiatives relate to your effectiveness in your position?
- Would you say that your job responsibilities are comparable to or equal to the responsibilities of your colleagues?
- How do you feel your job responsibilities are valued by others within your institution?

4. Experiences of Microaggressions and Workplace Dynamics:

- Have you ever experienced microaggressions in your workplace?
 - ⇒ What did that look like? How did you handle these situations?
- Can you describe your relationship with your coworkers and how your identity as a BIPOC individual influences these dynamics?

5. Perceptions of Diversity and Inclusion:

- What is your perception of the prioritization of diversity in the genetic counseling profession?

- Based on your experience, how does the diversity of the faculty impact the diversity of the student population in your program?
- Have you observed any direct correlations or impacts of faculty diversity on student recruitment, retention, or success in the GC program?

6. Mentorship and Professional Support:

- Do you engage in mentorship, either as a mentor or mentee or both?
 - ⇒ If so, is your mentee or mentor a person of color?
- How important do you think mentorship is for professional development, especially for BIPOC individuals in genetic counseling?
- What kind of mentorship training or support does your program or institution provide, if any?
 - ⇒ What does that support look like?
- What draws people to serve as a mentor, leader, or facilitator?

7. Reflections and Future Directions:

- How do you envision the future of diversity in genetic counseling, both in terms of student and faculty composition?
- What changes or initiatives would you like to see implemented to enhance diversity and inclusion in genetic counseling programs?

Conclusion (5-10 minutes)

- **Final Thoughts:** “Is there anything else you think I should have asked, or you think is important for me to know?”
- **Thank You and Next Steps:** *Thank them for their participation, explain the next steps (receive an email from me in a couple weeks about their gift card), and how their input will be used (responses will be coded and used to draw any conclusions amongst other participants).*
- **Debriefing:** *Offer to answer any questions they have about the study or any questions about the questions in this interview. “Thank you again for your honesty/vulnerability and your time. Have a great rest of your day and I look forward to any interactions we have in the future.”*

Appendix 4

Deductive Coding Themes

1. **Identity and Representation:** How individuals identify within the BIPOC spectrum and the impact on their professional journey.
2. **Sense of Belonging/Comfort and Inclusion:** Experiences contributing to or detracting from a sense of belonging within genetic counseling programs for BIPOC faculty and leadership. Factors influencing sense of belonging within different aspects of the program (peers, leadership, administration, students).
3. **Experiences with Bias and Microaggressions:** Instances of bias, microaggressions, and their impact on professional and personal well-being. How these situations were handled and influence relationships with coworkers.
4. **Mentorship and Support:** The role of mentorship and support networks in career advancement and day-to-day experiences. Engagement in mentorship, the role of mentorship in professional development, and the provision of support by the program or institution.
5. **Institutional Policies and Climate on Diversity:** How institutional policies and the overall climate impact the recruitment, retention, and satisfaction of BIPOC individuals. Views on the prioritization of diversity within the profession and the impact of faculty diversity on students.
6. **Representation and Visibility:** The importance and effects of representation within faculty, leadership, and student bodies.
7. **Recruitment and Retention Strategies:** Effective strategies and challenges in recruiting and retaining BIPOC faculty and students.
8. **Reflections and Future Directions:** Visions for the future of diversity in genetic counseling and desired changes or initiatives for enhancing diversity and inclusion.

Appendix 5

Demographic Figures

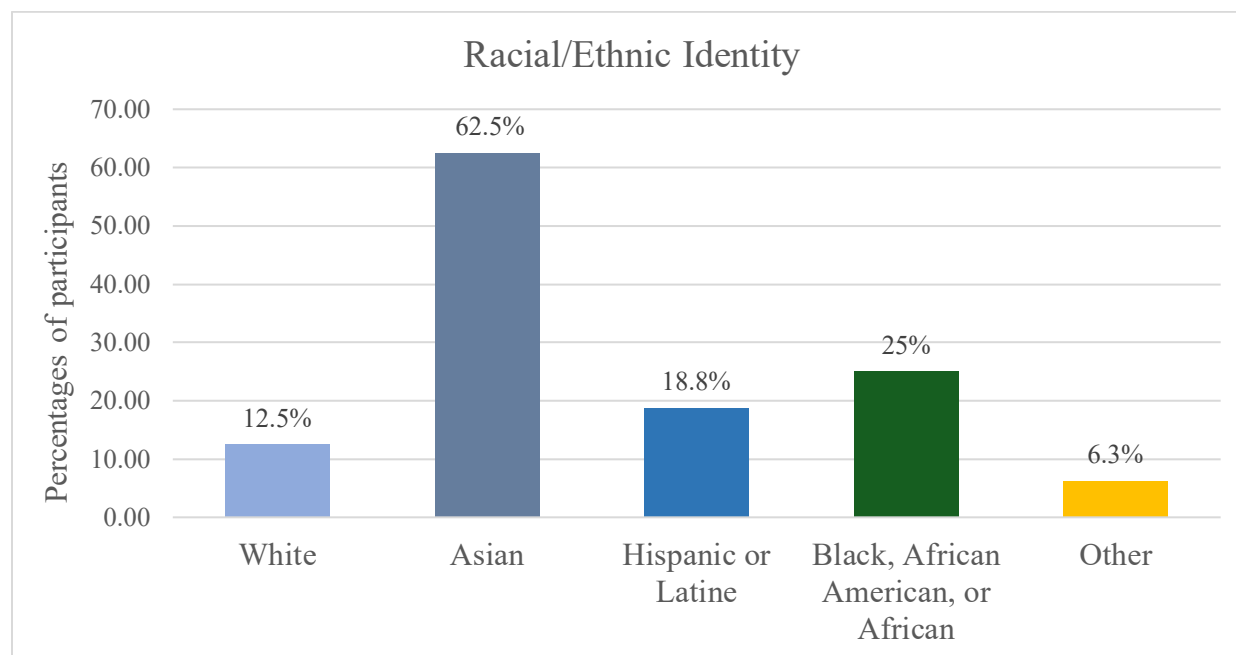


Figure 1. Racial/ethnic identities of survey participants. Some participants identified with two or more identities. The majority of participants identified as Asian.

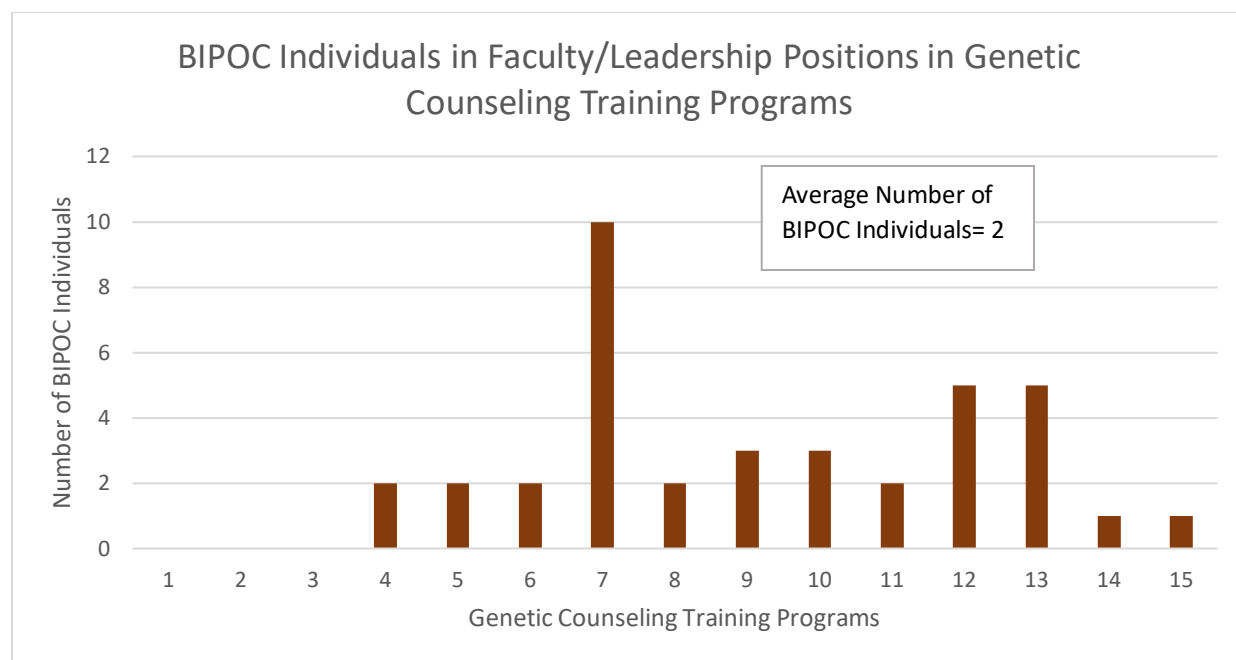


Figure 2. BIPOC Representation in genetic counseling programs in the U.S. Out of 15 responses, the average number of BIPOC individuals in a genetic counseling program is 2.