

An empirical analysis of factors influencing underrepresented geoscientists' decisions to accept or decline faculty job offers

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Key Points:

- Interviews with geoscientists from underrepresented groups reveal details of the decision-making process related to faculty job offers
- Strongest factors included geographic preferences, colleagues and resources, family, teaching duties, interview experiences, and salary
- Participants' personal identities often influenced their decisions, especially through evaluating the demographics of the department or municipality of the job

Abstract

There is a lack of diversity amongst geoscience faculty. Therefore, many geoscience departments are taking steps to recruit and retain faculty from underrepresented groups. Here, we interview 19 geoscientists who identify as a member of an underrepresented race or gender who declined a tenure-track faculty job offer to investigate the factors influencing their decision. We find a range of key factors that influenced their decisions to accept or decline a position, including fit and resources, experiences during job interviews, negotiations and offers, family, geographic preferences, attention to DEI, personal identities, mentorship, hiring process, and teaching responsibilities. Despite existing recommendations for interventions to improve faculty diversity, many of the participants experienced hiring processes that did not follow these suggested best practices, suggesting that departments are not all aware of best hiring practices. Therefore, we leverage our results to provide actionable recommendations for improving the equity and effectiveness of faculty recruitment efforts. We find that institutions may doubly benefit from improving their culture: in addition to benefiting current members of the institution, it may also help with recruitment.

Plain Language Summary

In response to a lack of diversity among geoscience faculty, geoscience departments are seeking to hire more tenure-track faculty members from groups that are currently underrepresented in the geosciences. In this work, we interview 19 geoscientists who have declined a tenure-track faculty job offer to better understand their experience and the factors they considered when deciding between jobs. These key factors include fit and resources, experiences during job interviews, negotiations and offers, family, geographic preferences, attention to DEI, personal identities, mentorship, hiring process, and teaching responsibilities. These interviews highlight the need for departments to ensure they follow recommended hiring practices, and the importance of departmental culture in recruiting candidates. We provide specific recommendations based on these interviews to improve hiring practices and recruitment in the geosciences.

1 Introduction

There is a lack of racial, ethnic, and gender diversity amongst geoscience faculty. Only 3.8% of tenured and tenure-track geoscience faculty in the United States identify as underrepresented racial and/or ethnic minorities and fewer than 30% identify as women (Bernard & Cooperdock, 2018; Nelson, 2017; Ranganathan et al., 2021). Throughout the early 2000s, the under-representation of Ph.D. students and faculty of color has persisted (Bernard & Cooperdock, 2018). Meanwhile, the fraction of graduate students and faculty who are women has increased over the past few decades (Bernard & Cooperdock, 2018; Glass, 2015; Ranganathan et al., 2021). In the geosciences, gender parity of Ph.D. students was reached or nearly reached around 2013 (Bernard & Cooperdock, 2018; Ranganathan et al., 2021) and parity in hiring at the assistant professor level was reached in about 2019. That is, the ratio of percentage of assistant professors who are women to the percentage of graduate students who are women reached one around the year 2019. (Ranganathan et al., 2021). However, Ranganathan et al. (2021) estimate that gender parity in *hiring* will not translate to parity amongst U.S. geoscience *faculty* until approximately the year 2056 unless further interventions are made.

There are a number of reasons why geoscience departments are motivated to increase faculty diversity. Increasing the diversity of geoscience faculty is fundamentally important for equity within academia (Acosta et al., 2023) and has implications for the impact of science on society. The demographics of geoscience institutions have implications for their functioning. If diversity is managed correctly – by cultivating a sense of inclusion and belonging (Stevens et al., 2008) – it can promote innovation (Hofstra et

al., 2020). Diverse groups perform better than homogeneous groups in difficult tasks, as they pay more attention to different perspectives (Van Knippenberg et al., 2004), engage in greater information sharing, and incorporate that information more effectively into decision-making (Sommers, 2006). These tendencies are critical for geoscience research, which is societally relevant and can have cascading impacts beyond the academy. Greater diversity can also reduce the likelihood of turnover of employees from underrepresented groups, especially when early-career employees see representation in higher ranks of the organization (Zatzick et al., 2003). Additionally, research shows that interacting with someone from an underrepresented group not only reduces prejudice toward that person but can also extend beyond that immediate interaction and generate positive attitudes towards other people of the underrepresented group after the interaction (Pettigrew & Tropp, 2006). This can help foster a more inclusive environment for diverse employees, increasing retention and allowing them to flourish in their roles (Shore et al., 2011). Increasing representation of scientists from underrepresented groups can reduce implicit biases and stereotype threat (Holmes, 2015b) and provide role models for early-career scientists, impacting the career trajectories and mental health of graduate students (Evans et al., 2018). These benefits are especially important for academic departments, tasked with training students and other early-career geoscientists.

Despite attempts to diversify the geosciences, geoscientists holding underrepresented racial, ethnic, and gender identities still face more barriers to successful participation than geoscientists from majority groups (Berhe et al., 2022). For example, a 2019-2020 survey revealed that geoscientists of color, women, and nonbinary geoscientists were more likely to report behavior such as discrimination, harassment, and mistreatment than other geoscientists (Marín-Spiotta et al., 2023). Likely as a result, geoscientists from these underrepresented groups were more likely to avoid colleagues and skip professional events than their peers (Marín-Spiotta et al., 2023). Further, a staggering half of women and nonbinary geoscientists and geoscientists from some racial minority groups have considered leaving their institution, a rate higher than that of other geoscientists (Marín-Spiotta et al., 2023). Therefore, the obstacles to hiring diverse faculty are significant and need to be examined (Berhe et al., 2022).

Previous research has recommended a number of interventions to diversify faculty, including supporting dual-career couples; implementing family-friendly policies; improving mentorship, career development, and networking opportunities; increasing the visibility of diverse faculty; and changing hiring practices. Procedures supporting dual-career couples and family responsibilities are particularly important for the recruitment and retention of women faculty because women faculty in the natural sciences are disproportionately likely (48% of women and 35% of men) to have academic partners (Schiebinger et al., 2008). Successful interventions to improve hiring for dual-career couples include appointing a neutral liaison to support dual-career couples, using resources such as the higher education dual career network (HEDCN) and higher education recruitment consortium (HERC), appointing a partner to an academic position within the university (with funding), or split appointments for partners in the same field (Holmes, 2015a). A scientist's childbearing years often overlap with critical career stages, including graduate student, postdoc, and assistant professor positions. Moreover, parenthood affects women's preferences about work-life balance more than men's (Ferriman et al., 2009). Successful interventions for supporting parents include time and space for breastfeeding (O'Connell, 2015), paid parental leave, part-time work options, funding for backup child care, and on-site child care (Dutt, 2015).

Effective mentorship of junior faculty can increase retention (Lozier & Clem, 2015). Successful interventions to improve mentoring include formal mentoring programs, such as Mentoring Physical Oceanography Women to Increase Retention (MPOWIR) (Lozier & Clem, 2015), and department-hosted career development and networking events (Bhalla, 2019; Dutt, 2015; Lozier & Clem, 2015). Awards can help propel an early-career scien-

tist, but selection can be subject to implicit biases without care. Successful interventions have included awards for excellence in mentorship and taking steps to reduce implicit bias in award nominations and selection (Dutt, 2015; Holmes, 2015b). Furthermore, some institutions have seen success by making changes to their hiring practices (Dutt, 2015). Examples of such practices include changes in how positions are advertised (Bhalla, 2019; Dutt, 2015), having broader searches (O’Connell & Holmes, 2015), changes to the composition of hiring committees (Bhalla, 2019; Dutt, 2015), educating the search committee on best practices (Bhalla, 2019; Dutt, 2015; Holmes, 2015b), and cluster hiring (Freeman, 2019). In addition to making their own practices more inclusive, search committees can evaluate candidates based on their demonstrated commitments to diversity and mentorship.

The research described above has primarily studied outcomes associated with various interventions. That is, researchers implement an intervention and then examine how their institution’s demographics change. However, to our knowledge, there is no research about how geoscientists holding underrepresented racial, ethnic, and gender identities perceive these interventions in practice, and there is an overall lack of narratives about their job search experiences more generally. Therefore, we evaluate the experiences of geoscientists from these underrepresented groups when searching for faculty jobs. We interview 19 geoscientists who have recently declined at least one tenure-track faculty job (see Methods) about the factors that influenced their decision to decline (an) offer(s) and/or accept a different offer. These interviews highlight a few key factors that influenced the decision to take a job or not, including fit and resources, interview experience, offer and negotiation, family considerations, geographic preferences, attention to diversity, equity, and inclusion (DEI), personal identities, mentorship, hiring process, and teaching responsibilities. In Section 2, we describe our methods. In Section 3, we describe our findings. In Section 4, we synthesize interviewee experiences into implied recommendations for faculty hiring.

2 Methods

2.1 Participant recruitment

Our population of interest is geoscientists from underrepresented races, ethnicities and/or genders who declined a tenure-track faculty job at a U.S. institution between 2016 and 2023. To be specific, Black or African American, Asian, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, mixed race, Hispanic or Latino, women, and/or trans or non-binary geoscientists were eligible for our study. Throughout the paper, we use the term “underrepresented” to describe this population of interest, though we recognized that representation and preferred terminology can change over time. Further, we acknowledge that these are not the only identities associated with barriers to successful participation. We interview geoscientists who have *declined* at least one offer because these geoscientists are both competitive on the job market and have actively made at least one job decision in their search (i.e., we did not interview geoscientists who selected a job because it was their only option). We interview geoscientists who declined their offer(s) between 2016 and 2023 so that their experiences are relevant to the current job market.

We recruited interview participants using a variety of affinity group and institutional email lists and social media pages. These include the Earth Science Women’s Network (ESWN), the American Geophysical Union (AGU), NSF National Center for Atmospheric Research (NSF NCAR), the Massachusetts Institute of Technology- Woods Hole Oceanographic Institution (MIT-WHOI) joint program, Asian Americans and Pacific Islanders in Geosciences (AAPIG), the United States Geological Survey (USGS), and Cryolist. We used this convenience sampling approach because there was no way to develop a complete sampling frame (an exhaustive list of all members of a population

to sample from) for our population of interest, as many decisions related to hiring are not made publicly available. To address some of the potential issues with convenience sampling, we used a screening survey (described below) to identify representative participants and ensure balance across our sample. This approach was well-suited for our goal of providing detailed data on a range of hiring experiences.

Participants were first asked to fill out a screening survey with basic questions about their job search, their current position, their gender, race, ethnicity, and their willingness to participate in an interview (Appendix A). Based on their responses, survey respondents were invited to participate in a 45 minute interview about their job search if they

- are a geoscientist;
- declined at least one tenure-track faculty job offer between 2016-2023;
- identify as an underrepresented race, ethnicity, and/or gender; and
- were willing to participate in an interview.

This process yielded 19 interview “participants.” We did not interview all white women who met the eligibility requirements because they are overrepresented in our survey.

Of the 19 participants, 9 currently hold (or have accepted) a tenure-track faculty position and the other 10 hold a variety of other positions within the geosciences. A variety of disciplines within the geosciences including earth, ocean, atmospheric, and planetary sciences are represented among the 19 participants. Of the 19 participants, 16 identify as an underrepresented gender and 6 identify as a underrepresented race/ethnicity. It is important to note that our sample includes more people with underrepresented gender identities than with underrepresented racial/ethnic identities; White cisgendered women are the most common demographic in our sample. The gender-related and race/ethnicity-related barriers often differ, and combining these aspects of identity into one sample is a limitation of our study. We report results in aggregate to better protect participants’ anonymity.

Participants were free to talk about any experiences they had with hiring, including additional experiences that did not meet the above criteria. Therefore, our findings may include information about experiences with jobs other than tenure-track faculty jobs, jobs outside of the U.S., hiring experiences before the year 2016, and identities other than race/ethnicity and gender. However, most of the data reported here is about experiences that fit the criteria described above.

2.2 Interview methods

Each of the 19 participants did an interview of approximately 45 minutes with the lead author of the paper. The interview approach followed standard ethical guidelines and was approved by NSF NCAR’s Human Subjects Committee (HSC). We used a *semi-structured* interview protocol to get an overview of the hiring experiences of the participants, while leaving space to probe additional emergent themes (Alvesson & Ashcraft, 2012). This interview style allows us to draw on a standard list of questions (Appendix B), while allowing the interview to unfold by pursuing concepts raised by participants (Luo & Wildemuth, 2009). We chose this method because semi-structured interviews offer an opportunity to hear rich descriptions and detailed information about personal feelings, perceptions, and opinions.

The goal of each individual interview was to determine the ways in which various aspects of the hiring process influenced a participant’s perception of the job opportunity and ultimately why they declined and accepted the offer(s) that they did. To that end, participants were asked about the logistics of their search, what characteristics they were

looking for in deciding to apply for a job, and to briefly summarize what caused them to accept the offer that they did and decline the other(s). Further, participants were asked more detailed questions about interview experiences, negotiation experiences, whether and how teaching and DEI came up during application process, any informal contact with the department, personal identities, and any partner, family or caretaking responsibilities. The questions are listed in Appendix B.

The 19 interviews were recorded and transcripts were created. Using the recordings and transcripts, the lead author made a table which summarized each participant's responses and included any relevant quotes. Each column of the table corresponds to a theme. Themes were determined by the lead author, with some themes corresponding directly to one of the interview questions (Experiences during job interviews corresponds to question 7, negotiations and offers corresponds to question 8, DEI corresponds to question 10, personal identities corresponds to question 12, and family corresponds to question 13). For the remaining questions, responses were separated into the following common themes: fit and resources, geographic preferences, mentorship, hiring process, and teaching responsibilities. If a participant's response was relevant to multiple themes, it was included in each relevant column of the table. For each theme, the range of responses is summarized in a subsection of Section 3, with a few themes combined, by both describing the range of responses in the text and highlighting a few exemplary quotes in the tables.

3 Findings

The data presented in this paper include quotes from the participants. The quotes are organized into tables by theme and each quote has a Quote ID (e.g. Strongest 1). In the text, we summarize the range of responses for each theme, referring to the quotes in the tables. For example, to refer to the quote in Table 1 with Quote ID Strongest 1, we write "(Table 1: Strongest 1)." There are 124 quotes in total, and the distribution of quotes across participants is shown in Figure 1. Quotes that pertain to a specific job include whether the candidate accepted, declined, or did not receive an offer for that job. There are at least 3 quotes per participant, and 3 to 9 quotes are used for all but one participant, who has 19 quotes. This participant had a longer-than-average interview with us and had more on-campus interviews than most participants, which they told us about in detail. Each of the 19 participants had unique reasons for declining and accepting offers. However, a few common themes emerged. We begin by describing the strongest factors that participants said influenced their decision. Then, we further explore the themes that participants discussed during their interview. Those themes are: experiences during their job interviews, negotiation and offers, family, geographic preferences, DEI in application materials and interviews, personal identities, mentorship, the structure of the hiring process, and teaching responsibilities. We also include a few miscellaneous quotes on other themes.

3.1 Strongest factors

Table 1 describes the strongest factors in the participants' decisions, as determined by their responses to question 6 in Appendix B. In answering this question, some participants described what dissuaded them from the offer that they declined, while others described what attracted them about the offer that they accepted (and thus caused them to decline their other offer(s)), and some described what they were looking for more generally. Many participants described multiple factors in answering this question, and we include them all in Table 1. Some participants either accepted two different jobs at two different times or declined two offers for two different reasons, so there are more quotes in Table 1 than participants.

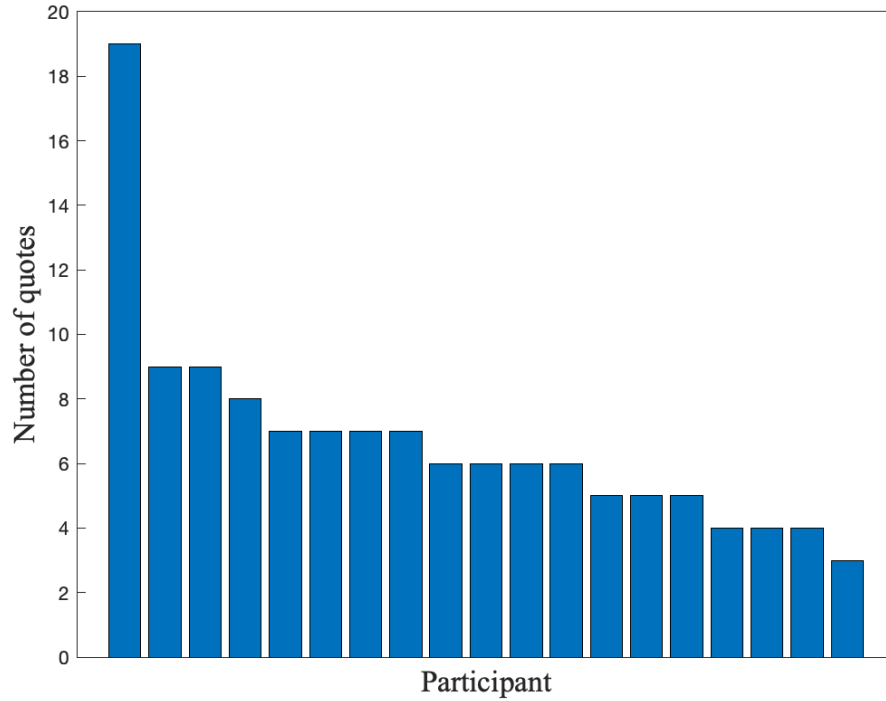


Figure 1. Number of quotes per participant.

Geographic preferences played a prominent role for many of the participants (Table 1: Strongest 1-6, Strongest 8, Strongest 11, Strongest 13-14, Strongest 17). For many participants, geographic preference is tied to their family or their partner's family (Table 1: Strongest 1-3, Strongest 5, Strongest 8, Strongest 11). Separate from geographic preferences, family, especially partner, was a deciding factor for several participants (Table 1: Strongest 9-10, Strongest 19). Further, the resources of the institution and fit with the colleagues were deciding factors for many participants (Table 1: Strongest 1, Strongest 4-9). Several participants were swayed by the specifics of the faculty job being offered including the ratio of research to teaching (Table 1: Strongest 8, Strongest 13-16). For several participants, what they experienced during their on-campus interviews played a deciding role in their decision (Table 1: Strongest 4, Strongest 8, Strongest 17-18). One participant declined a job because they were not given enough time to make a decision; the participant was waiting to hear back about other applications (Table 1: Strongest 12). For three participants, a low salary offer dissuaded them from a position (Table 1: Strongest 19-21). Finally, participants' personal identities and those of the students influenced the decisions of several participants (Table 1: Strongest 3-4, Strongest 8, Strongest 13).

In the following subsections, we give more detail about participant responses to these themes, including responses from participants who did not necessarily identify a theme as one of the strongest factors.

Table 1: Quotes from participants about the strongest factors influencing their decision to accept or decline an offer.

Quote ID	Quote
Strongest 1	“It was the a combination of the geography [being near my partner’s family] and then the prestige and the quality of students and of colleagues that I would have that really made it a no brainer.” (accepted)
Strongest 2	“The location. My [partner] wanted to move to [this location]. I mean, [my partner’s] entire family on both sides [lives in this area].” (accepted)
Strongest 3	“Two main reasons. One was location; one [opportunity] was closer to family. And the other main reason was the student population. My current institution has the most diverse student population I’ve ever encountered and I really wanted to be in an institution that valued that.” (accepted)
Strongest 4	“A huge one was geography. It was one of my only offers that was in [a region of the US which was desirable to me]. During my interview people were very personable, genuinely interested in my research, generally had read my things. [Also] providing resources for support for grants. [...] And in my interview at [my current institution], I was not asked any inappropriate questions. There was no mention of my gender, there were no problems of those sort, which is not true at nearly all the other schools I interviewed at.”
Strongest 5	“Resources and geography. I think both departments have great department culture. They both wanted someone of my flavor of [research]. And both would have been great institutions to to join. [...] It’s resources like the ability to pay students and hire postdocs and really get my lab ramped up. [...] Being on one of the coasts was somewhat important [to my partner].”
Strongest 6	“It was just the sense of this really awesome community and all these intellectual opportunities because there’s so many people thinking about related science from different directions that was the most exciting professionally. And then personally this is a great fit for what I was looking for from a geography perspective.” (accepted)
Strongest 7	“The university [where I declined an offer] is little less well resourced, they didn’t have the same kinds of resources for research and they weren’t able to draw the same kinds of graduate student applicants that [university where I accepted an offer] did. Also, I actually really enjoy being in a big department such as [this one]. [...] I think it’s been fun for me and for my graduate students to have that sort of community and critical mass people.”
Strongest 8	“It was it was a long process. And the timing was a factor too. [...] A job for my partner was a huge consideration. Then I started to really think about location, whether it would be closer to family, whether we wanted to live in that place. Of course I got more information when I visited in person. [...] [at the jobs that I declined] there might not be too many people that do what I do. And the demographics of the different departments. One was very male dominated, the other [was] more mixed. [I was] thinking about the overall environment, colleagues, the job duties, things like teaching loads, there are so many factors.”

- Strongest 9 “It became a matter of ‘can [my partner and I] both have jobs in this place?’. And then the next step is [whether or not] it has an intellectual environment that is really meaningful to me.”
- Strongest 10 “I was given [and accepted] a retention offer which was better only in that it didn’t involve me having to move across country and then be further away from my partner.”
- Strongest 11 “The department had not hired anyone at the assistant professor level in [many] years. [It] made me hesitate and question about the sorts of things were happening. And then I have a partner who [has a career]. And we soon realized that there weren’t that many options [for my partner in that city].” (declined)
- Strongest 12 “Even though it was quite highly-ranked in [a] place that I wanted to go, it just expired.” (declined)
- Strongest 13 “Definitely the teaching component was one that I was less interested in. [...] I did have certain some pause and concern about ‘How safe are college campuses in this country in this day and age?’. Coupled with the racial, political side of the equation as well. [...] Geography certainly weighed on it as well. [...] It was definitely one of the tougher ones to turn down because it is a prestigious institution.” (declined)
- Strongest 14 “I often think that one of the hardest things I’ve ever done was turn down the [tenure-track faculty job] offer, just because I was like ‘This could be my only opportunity to be a professor’. But I think I ultimately realized that I’d rather not be a professor than have a [large] course load, expected to teach classes that I didn’t feel comfortable with and live in [the city where the job would have been located].” (declined)
- Strongest 15 “I got an offer from a SLAC [small liberal arts college] [and an R1]. And the main reason why I ended up going with the [R1] is I realized after really talking to faculty at SLACs that I did want a job that was more research focused.”
- Strongest 16 “The biggest draw to me here is that teaching is equally [as] valued [as the] research aspect. [We’re] encouraged to continually improve your teaching and think about that deeply as opposed to a lot of, say, R1 schools where your focus is research and you have to teach as one of those obligations.” (accepted)
- Strongest 17 “I didn’t get a good vibe. It was a very large college so I felt that it would be hard to thrive. It was just like one cog in a very large machinery.” (declined)
- Strongest 18 “I went and I did the interview and I just had a really bad, awkward feeling from the interview. [...] A bunch of people were away and so I didn’t really get to meet a lot of people.” (declined)
- Strongest 19 “It was a pay cut and a move and there really wasn’t a negotiation. The biggest thing my partner and I decided on was that [my partner] really needed the opportunity to be able to relocate to a place that would support [them]. [...] Let’s see what they say about making an accommodation for [my partner]. [...] The response was really underwhelming.” (declined)
- Strongest 20 “Living in [that location] on the salary that they were offering was just not a viable option.” (declined)

Strongest 21 “Money. Both offers offered me less than I was currently making per year as a postdoc.” (declined)

3.2 Fit and resources

Several participants mentioned institutional resources, prestige, and fit with the potential colleagues as factors that influenced their searches. For some participants, these were among the strongest factors (Table 1: Strongest 1, Strongest 5-9, Strongest 12-13). More specifically, several participants were looking for colleagues that they could collaborate with (Table 1: Strongest 6, Strongest 8-9; Table 2: Resources 1), a department with good resources to attract students and postdocs (Table 1: Strongest 5, Strongest 7), and a prestigious institution in general (Table 1: Strongest 1, Strongest 12-13). Some participants felt that prestigious institutions have better resources (Table 2: Resources 2), while another participant was disappointed by an offer that they received from a prestigious institution (Table 2: Resources 3).

Table 2: Quotes from participants about fit and resources.

Quote ID	Quote
Resources 1	“I was really trying to get a feel of if the the faculty and the department were collaborative in their research. I have found that I work best in collaborative environments.”
Resources 2	“What universities can offer definitely scales with their prestige.”
Resources 3	“A [prestigious private R1] institution cannot solve basic problems. If this is the best that a [prestigious private R1 institution] has to offer, maybe we should think about it a little harder.” (declined)

3.3 Experiences during job interviews

Participants reported a range of experiences during their job interviews, some of which improved their perception of the job and some of which worsened their perception of the job. Things that participants were looking for during their interviews included: considering their needs (Table 3: Interviews 1-2), positive interactions with faculty (Table 3: Interviews 3-4), a good sense of camaraderie amongst the faculty (Table 1: Strongest 1, Strongest 9; Table 3: Interviews 5-6), and meaningful interactions with students (Table 1: Strongest 1, Strongest 3; Table 3: Interviews 7-10).

A dismayingly large number of participants reported specific interview experiences which were very negative. Two participants had unsettling interactions with respect to professors in the department where they were interviewing who had previously been publicly disciplined for their behavior (Table 3: Interviews 11-12). Two participants were asked illegal questions (Table 1: Strongest 4; Table 3: Interviews 13-14). Several participants reported disparaging comments during an interview (Table 3: Interviews 15-16). Multiple participants reported a seeming lack of interest from the faculty during their interview (Table 1: Strongest 18; Table 3: Interviews 17-20) with behavior ranging from not having read the statements in their applications to missing meetings. One participant noted that there is unwelcome pressure to drink during interviews (Table 3: Interviews 21).

Overall, we find that job candidates get a strong impression of the institution’s culture during on campus visits, including underlying issues. This culture affects decision-making. Candidates also perceived that the way they confronted issues during their interviews affected whether or not they get an offer, which may be one way that institutions maintain barriers facing geoscientists from underrepresented groups.

Table 3: Quotes from participants about interview experiences.

Quote ID	Quote
Interviews 1	“Someone not on the hiring committee reached out from a DEI perspective before I went to the on-campus interview and they [asked] ‘are there any accommodations that you need?’ That was, both new and very positive [for] understanding that department culture.” (declined)
Interviews 2	[Because the person coordinating the interviews knew I was a parent, they] “said ‘are you comfortable traveling? We can just require all of the people to do virtual interviews?’ [...] virtual things were kind of nice because it’s exhausting.” (no offer)
Interviews 3	“We had casual time and dinner with people not on the committee who were very friendly and open, but no boundaries seemed to be crossed.” (accepted)
Interviews 4	“[I had] a mixed experience meeting the different faculty. Some faculty just didn’t show up for anything, some faculty were there the whole time and I spent a lot of time with them.” (declined)
Interviews 5	“[There] was the lack of camaraderie that I had been able to glean from any of the faculty, even sitting around a dinner table sharing a meal together.” (declined)
Interviews 6	“I’ve been really attracted by some departments that clearly are very cohesive and work together closely and put off by some departments that seem to have a real dichotomy.”
Interviews 7	“I was particularly paying attention to interactions with students during my interviews.”
Interviews 8	“I had a really good experience hanging out with students.” (declined)
Interviews 9	It was a “red flag” that “there were no students involved [in the interview].” (accepted and has since left)
Interviews 10	“For interviewers: use real students [during teaching demos], it works better.”
Interviews 11	[After bringing up an inappropriate experience with a faculty member during the interview to the DH or chair] “In retrospect I wish that I hadn’t said that because I feel like it eclipsed some of the science I was trying to talk about. [...] When I didn’t get the job, it left me feeling like if I hadn’t told them this, would I have had a better opportunity to talk about my science?” (no offer)
Interviews 12	“I ended up second choice for the job largely because I questioned the department chair about [a professor in the department with a reputation for inappropriate behavior]. [...] I have some friends there [and] that seems like that was potentially a make or break on if I got the job or not.” (no offer)

Interviews 13	“During one of the interviews I was asked my sexuality, my religion, if I was currently pregnant, and maybe if I was married. I like to believe that they were asking with good intentions, [...] but I was appalled.” (no offer)
Interviews 14	“[During one of my interviews a professor asked] ‘Does that mean you’re married? [...] Does that mean you have children?’” (accepted)
Interviews 15	“The worst one was when I was at an interview, we went to [a meal and] I was one on one with an older professor who told me that the only reason I’ve made it so far in my career was how I looked. And made some not appropriate comments about being a [person of my identity] in science.” (declined)
Interviews 16	During an interview, one professor “basically insinuated that I was lying about the [DEI work] that I did.” (declined)
Interviews 17	“People forgot to show up for my scheduled times. People were late picking me up. People were late to dropping me off at the next thing. I had no control over any of it.” (no offer)
Interviews 18	“I hardly came across people who seemed like they had read any of the statements I had submitted.”
Interviews 19	A professor “fell asleep during my talk so the whole thing was just like really bad.” (declined)
Interviews 20	“Multiple senior faculty just no-showed their meetings with me. Like I went to their door and they weren’t there.”
Interviews 21	“I did have a drink at every dinner [...] it was definitely a pressure that I was not happy to have.”

3.4 Negotiations and offers

Beyond establishing the material support that a participant would have if they were to accept the job offer, negotiations also revealed to participants how supportive the institution would be of their career objectives. Several participants had confusing negotiation experiences, particularly being asked what they needed rather than being made an offer first (Table 4: Negotiation 1) and being unsure when to mention their family needs (Table 4: Negotiation 2-3). Family often came up for many participants with respect to partner hires: for many participants an opportunity for a partner was a strong consideration (Table 4: Negotiation 4-5) and often among the strongest considerations (Table 1: Strongest 8-9, Strongest 11, Strongest 19; Table 4: Negotiation 6). Several more participants were disheartened by the negotiation process, including being lowballed (Table 4: Negotiation 7), being told “we’re fine if you don’t come here” (Table 4: Negotiation 8), being told that an offer might need to be rescinded in response to asking for a course release (Table 4: Negotiation 9), and disparaging comments during a negotiation about lab space (Table 4: Negotiation 10). Identity can factor into negotiation tactics and the strength of negotiation position. One participant explicitly mentioned the way that identity was realized through negotiation (Table 4: Negotiation 7) while others felt a lack of support or as if they were being put into an unreasonable negotiation position. The offer itself was a strong factor for many other participants (Table 1: Strongest 20-21; Table 4: Negotiation 11-14). The offer was such a strong factor for so many participants across different personal identities, that we believe it warrants more discussion.

For most participants, salary was the most important part of the offer, but for some, it was lab space. For seven participants, the offer was inadequate and they ultimately declined the offer, and two accepted despite poor offers. A surprising number of participants mentioned very low offers (Table 4: Negotiation 12). In fact, five participants described salary offers that were lower than what they were making as a postdoc (Table 1: Strongest 21; Table 4: Negotiation 11, Negotiation 14). Some participants were put off by low salary offers because they felt the offers were not enough to support themselves and their families (Table 4: Negotiation 11), while for others it raised concerns about how faculty are treated (Table 4: Negotiation 13).

For compensation, many participants were looking for enough compensation to buy or rent a home large enough for their family, to be able to afford childcare, to have enough money to travel to see family, and/or to be able to support a partner if a partner hire was not an option. It is important to note that socioeconomic and race intersect in the United States (Shrider et al., 2021). Further, several participants were looking for lab space commensurate with their research goals. Additionally, several participants described wanting course releases in the early part of their faculty job in order to have time to prepare their course materials while building their research groups. Over half of the participants described offers that they felt were lacking in one or more of these areas.

Three additional participants (for a total of 12) mentioned retention offers, two accepted (Table 1: Strongest 10) and one declined.

Table 4: Quotes from participants about negotiation.

Quote ID	Quote
Negotiation 1	“It was all a little awkward with [the University I was negotiating with] in the sense that they don’t make [me] an offer to start with. They basically want[ed me] to say what I needed to do what I said that I would do. And so there was all of this interpretation, exercise of trying to figure out. What I should have asked for startup?” (declined)
Negotiation 2	“One thing I wish that’d been better in the negotiation process for parents is, well, I didn’t know when to say I was a [parent]. [...] It turns out I could have negotiated childcare. [...]. And I didn’t want to say anything until an offer letter was signed. But then I missed out on being able to get [it].” (accepted)
Negotiation 3	“Specifically about two bodies: in some situations I’ve spoken with faculty and they’re like ‘I just wish people would tell us ahead of time if they have an accommodation need because it helps us provide them a better offer, which we can’t do if we don’t know.’ And then other people have been like ‘Yeah, I don’t tell them because I’ve actually told them in the negotiation that I had a spousal accommodation and the job offer disappeared.’ So there’s so many different ways in which it plays out.”
Negotiation 4	“A lot of it came down to the specifics of the offer that they did give my partner. It wasn’t really like what they have here, so that was a big factor.” (declined)
Negotiation 5	“I would not say that they were not responsive at all, it’s not that they said nothing. They did offer to help searching for a position [for my partner]. They had a placement agency [they were] working with, to try and figure out a position, but it was all a little shaky.” (declined)

Negotiation 6	“They were literally losing a faculty member because of a two-body problem and they were unwilling to talk to me about how to accommodate a two-body problem beyond a few condescending suggestions.” (declined)
Negotiation 7	“What was crazy, there was one institution where I had a friend there and I was warned that women coming in had been lowballed. And I thought the salary was low. I asked for [a very large increase in salary] and they said yes, without even thinking about it. That played in my role of making that decision. They weren’t even giving a fair market rate.” (declined)
Negotiation 8	“[I] knew I had an offer, but they were very brusque about it, if that makes sense. Like, ‘we’re fine if you don’t come here to just, we don’t want to waste time’. It was not far off from those words. So [I thought] ‘well, I’m not sure if I would feel valued’.” (declined)
Negotiation 9	“I had asked for a course release, but [they] said something like ‘Oh, I’m not sure about that. I mean, if that’s really important to you, I’d be happy to bring that up at the next faculty meeting, but we may need to rescind your offer’.” (accepted)
Negotiation 10	“There was a more senior faculty member who made quite disparaging comments about my ability to start a lab, which made it just really easy to say no to that place.” (declined)
Negotiation 11	“I looked at the budgeting and I could not support my partner and I both on one salary despite the lower cost of living, which I could do [during my postdoc].” (declined)
Negotiation 12	“The initial offer was so low that it wasn’t worth negotiating.” (declined)
Negotiation 13	“When the people offering you the money make four times as much and don’t see why that should matter [...it] suggests to me that it will show up in other ways.” (declined)
Negotiation 14	“It was less than I was making as a postdoc.” (declined)

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3.5 Family

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Every participant mentioned family in some way, regardless of relationship status or parental status. As one participant succinctly noted “I think that there are difficulties that come with being single in a new environment just as there are difficulties when trying to move as a couple or trying to move with kids.” In general, a majority of the participants had partners and they considered the preferences and needs of their partners in deciding whether or not to apply to a job (Table 5: Family 1-2), negotiating an offer (Table 5: Family 3), and ultimately in deciding whether or not to accept an offer (Table 1: Strongest 1-2, Strongest 9-11, Strongest 19), although several chose not to mention their partner during interviews (Table 5: Family 4). Participants with children and participants who want children in the future considered this in their job search (Table 5: Family 5). Additionally, some participants expressed a desire to be close to other relatives (Table 1: Strongest 1-2, Strongest 8; Table 5: Family 6). Several participants were looking for evidence of work-life balance in their interactions with faculty (Table 5: Family 7).

Six of the participants requested partner hires as part of the negotiation and were met with a mix of responses. Two of them successfully negotiated partner hires and accepted the position. Three were met with a negative response and ultimately declined the offer. One participant asked for a partner hire at two different institutions, one gave a negative response and the other found an opportunity for the partner but it was not as exciting of an opportunity as the partner's existing position (Table 4: Negotiation 4). The participant declined them both. In addition to the 6 participants who requested partner hires from the institution(s) that made them a(n) offer(s), 10 participants mentioned their partner playing a role in their decision. In some cases, their partner's job or preferences was one of, if not the single deciding factor for the participant (Table 1: Strongest 2, Strongest 5, Strongest 8-11, Strongest 19). While it is clear that partners added a constraint to participants, one participant mentioned the unique difficulties of being single (Table 5: Family 6).

Table 5: Quotes from participants about family.

Quote ID	Quote
Family 1	"My [partner] gets a vote."
Family 2	"When there were institutions that were not a perfect match for me in terms of my research program but were in a good location for [my partner], I applied to those as well."
Family 3	"I wouldn't have taken any of these jobs if there hadn't been an offer for my [partner]."
Family 4	"I was advised by older women faculty [... not to] mention that I was married at all. I didn't mention that I had children at all. [...] I just kept my personal life very out of it. Nobody knew I had children or anything. Which made it a little easier, but it influenced my decision making. [...] I wish I could be more honest in the interviews, but I know you're not supposed to."
Family 5	"One of my meetings was with professors who had children and they said, 'We're not asking you anything, but here we're just gonna tell you about our experiences with tenure clock extension and everything.' And that was really helpful." (accepted)
Family 6	"Being in a large city where it's easier to meet people, where there are more people, and then having family nearby, that network is sort of built-in. My [family members] live here. All of that really helps alleviate some of the loneliness that comes with not being in a [...] relationship." (accepted)
Family 7	"Finding a place that I felt aligned with the work-life balance I envisioned, I think that was really important. [...] I think seeing other people at dinner talk about their kids or their hobbies or how they balance their work-life like it was a very open topic. I think that was always very encouraging [and that it] showed that it was a topic which people were thinking about."

3.6 Geographic preferences

Geographic preferences were common among participant's strongest reasons for accepting or declining an offer (Table 1: Strongest 1-6, Strongest 8, Strongest 10, Strongest 13-14). In general, participants did not feel that they could be picky about geography, despite having preferences (Table 6: Geography 1-3). State and local politics (Table 6:

Geography 4-5), feeling safe in a community (Table 6: Geography 6), race relations (Table 6: Geography 7), diversity (Table 6: Geography 8), being near family (Table 1: Strongest 3, Strongest 8; Table 6: Geography 9), their partner’s geographic preference (Table 1: Strongest 1-2, Strongest 5, Strongest 10), and a preference for a city (Table 6: Geography 8-9) were the most cited reasons for having a geographic preference. Geographic presence was such a strong factor for so many participants across different personal identities, that we believe it warrants more discussion.

Ten participants mentioned the politics of certain states or regions. This sentiment was always a negative one about moving to a state with conservative politics (e.g. Texas, Florida). The participants’ feelings about moving to a conservative state ranged from a willingness to try it to a dealbreaker. Further, six participants mentioned wanting to be in a municipality with diversity and where they would feel comfortable given their identities. This is in addition to four others who mentioned wanting to be in a diverse department or university. Overall, 10 of the 19 participants mentioned wanting to be in a diverse community. For seven participants, geographic preferences included mention of wanting to be close to family.

Focusing on the political preferences of participants, every participant who mentioned a political preference preferred liberal areas to conservative areas. Most participants who mentioned political preferences described recent changes to the political landscape in the United States, such as interference with the tenure process, changes in access to reproductive care in specific states after the overturn of *Roe v. Wade* in 2022, recent restrictions in access to gender-affirming care in some states, and the illumination of racial tension in some US cities (e.g. Minneapolis, MN and Louisville, KY). Participants were concerned by some of these changes for the sake of themselves, their families, and their prospective students.

Table 6: Quotes from participants about geographic preferences.

Quote ID	Quote
Geography 1	“I felt that being geographically picky was not a luxury that I had.”
Geography 2	“I almost feel bad for even thinking about location.” (declined)
Geography 3	“At this point, I care more about where I am than about being a scientist.”
Geography 4	“I think the overarching state politics gave me pause at a couple of the places.”
Geography 5	“Will I be at a school where my hands are tied in terms of how I teach a course like climate change?”
Geography 6	“I valued feeling safe in the community. And I think that was lacking in a couple of the places [and] that push[ed] that onto the ‘no’ list for me.”
Geography 7	“In terms of what’s occurred recently, [the city where the university is located] has been one of the unfortunate many cities in the racial spotlight.” (declined)
Geography 8	“It was a little bit hard to imagine living in a place that [remote and not diverse] with a baby for a really long time.” (accepted then left for a different job)

Geography 9 “Being in a large city where it’s easier to meet people, where there are more people, and then having family nearby, that network is sort of built-in. My [family members] live here. All of that really helps alleviate some of the loneliness that comes with not being in a [...] relationship.” (accepted)

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3.7 Diversity, Equity, and Inclusion

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Participants had a range of experiences in discussing their contributions to diversity, equity, and inclusion (DEI) during the application and interview process. Several of the participants said they were looking for an institution with a commitment to DEI (Table 7: DEI 1-4) or, similarly, were deterred by institutions that did not show a commitment to DEI (Table 7: DEI 5-7). From their responses, it was clear that most participants had a strong impression of whether or not the department cared about DEI during the application and interview process (Table 7: DEI 3-7). During their interviews, some participants enjoyed positive experiences in discussing DEI (Table 7: DEI 3). However, several participants noticed that DEI came up more with students and other junior people in the departments than with senior faculty (Table 7: DEI 5), and one participant said that they found this “odd.” Several participants who are very committed to DEI work wondered if it might not be a coincidence that they were not offered jobs at places that didn’t appear to value DEI (Table 7: DEI 6). Several participants were deterred by a perceived lack of commitment to DEI, including several participants who questioned whether members of the search committee read what they wrote about DEI (Table 7: DEI 7). During an interview, a professor insinuated to the participant that they were lying about their DEI work (Table 3: Interviews 16). Finally, some participants also expressed concern that the institutions were focused on what the candidate would do to improve DEI at the institutions because they were wary of how much power they would have to make changes as a new professor (Table 7: DEI 8).

Table 7: Quotes from participants about DEI in applications and interviews.

Quote ID	Quote
DEI 1	“My current institution has the most diverse student population I’ve ever encountered and I really wanted to be in an institution that valued that.” (accepted)
DEI 2	“I really wanted a place that put some effort into diversity.”
DEI 3	“It definitely was something that I brought up in the interview because I thought it was important to understand how a department I might join interfaces with the community around us. [...] it was received well, so I think it was a positive.” (accepted)
DEI 4	“I think the [school where I accepted a job] was the one that was most open to talking about the problem and using the right language, which did affect my feelings about the school. And one of the reasons to choose [to come here], because it seemed like they were genuinely interested.” (accepted)
DEI 5	“I found it surprising that [DEI] was asked about only by the two students that I talked to. The role of the students was to talk about DEI, which felt very odd.” (declined)

DEI 6	“I think the ones that didn’t ask for statements, I’m not sure I got an interview with any of those. And I am pretty active in DEI stuff and even my regular research and teaching statements definitely have DEI stuff in them. It’s curious I didn’t get any interviews with the ones that didn’t require that.”
DEI 7	“I don’t get the feeling that they actually cared or read what I wrote.”
DEI 8	“I got a lot of questions at every institution about what I would do to change the DEI culture of that institution. And I think that framing peeves me a little bit just because I think more it needs to be done from an institutional level. [...] The non-tenured young new faculty only have so much power to do things.”

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3.8 Personal identities

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Participants’ personal identities featured prominently in their job searches. Many participants were looking for a department, university, and/or municipality in which their personal identities were represented (Table 8: Identities 1-2). Participants often mentioned their personal identities in describing their geographic preferences (Table 8: Identities 3). Identities also played a role in how participants viewed their interview and negotiation experiences (Table 8: Identities 4). Several participants also mentioned feeling tokenized during the hiring process (Table 8: Identities 5-7). *Tokenism* is the policy or practice of making only a symbolic effort. For example, participants felt tokenized when they felt the institutions was only hiring them to improve their diversity statistics. Several participants mentioned the importance of role models (Table 8: Identities 8), and some specifically mentioned wanting role models who share similar views about being a member of an underrepresented group.

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While our only demographic criteria for selecting participants was race, ethnicity, and gender, participants mentioned several other identities which influenced their decisions (Table 8: Identities 9-11). Country of origin (Table 8: Identities 9), sexual orientation (Table 8: Identities 10), and status as a first-generation college student (Table 8: Identities 11) were all mentioned by participants.

Table 8: Quotes from participants about personal identities.

Quote ID	Quote
Identities 1	“I looked very carefully at the demographics of departments I was applying to.”
Identities 2	“Politics and gender and race, for me, have limited where I’m willing to go.”
Identities 3	“It had some very stark lines in terms of where the communities of color were and where the predominantly white communities were. [...] Am I moving my family to a place that will feel safe?” (declined)
Identities 4	“On the grapevine, [they] apparently have a really bad track record with tenuring women and multiple tenured female faculty during my interview unprompted told me how terrible the tenure process had been for them.” (no offer)

Identities 5	“It seems like they were really trying to hire a woman, which is great, but then you’re put in that box.” (declined)
Identities 6	“There was one program in particular became a ‘heck no’ [...] It became a nonstarter. [...] You see a checkbox. That’s how it came across. [...] If it’s a numbers game and it’s a checkbox you’re looking for, then am I really truly going to be supported in accepting this opportunity?” (declined)
Identities 7	“I definitely felt tokenized in the sense that I had a meeting with the search committee in which several of the faculty members clearly wanted me to speak about my personal identity. So I ended up coming away not really liking that experience. I thought it was not appropriate.”
Identities 8	“There’s this pioneering woman [in the department where I was interviewing] and I remember thinking about how cool it would be to be her colleague.” (declined)
Identities 9	“The burden of a visa is a horrible stressful burden to carry.”
Identities 10	“They respected me as a queer person.” (accepted)
Identities 11	“My parents don’t have a college degree, so figuring out how to navigate [science] as a career was very challenging.”

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3.9 Mentorship

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Several participants emphasized the importance of mentorship from Ph.D. and postdoc advisors (Table 9: Mentorship 1-2), peers (Table 9: Mentorship 3), and mentorship in teaching (Table 9: Mentorship 4). One participant even stated that they felt mentorship outweighed compensation (Table 9: Mentorship 5). Some participants did not feel that they received adequate mentorship (Table 9: Mentorship 6-7). On the other hand, for many participants, a job with a mentorship component appealed to them (Table 9: Mentorship 8-9).

Table 9: Quotes from participants about mentorship.

Quote ID	Quote
Mentorship 1	“The most important thing is that [...] both [my Ph.D. and postdoc mentors] believed in me.”
Mentorship 2	“My Ph.D. advisor was exceptionally supportive and I don’t think I would have gotten the jobs without having mentorship from somebody who already has a faculty position who was able to look over my documents and provide feedback. I actually have a pretty large network of other young faculty members. My [graduate school] community was great. Most of the faculty members there asked to see my applications and looked over them, [...] I didn’t [even] ask them at all.”
Mentorship 3	“In hindsight [being a part of a cluster hire] is a positive because it’s forced me to interact with [...] people outside of my subfield of Earth science, which is great. And it also means that I have a cohort of several other junior faculty.”

Mentorship 4	“They talked about this at the interview, which also led me to want to go there. The first few classes [...] are team taught, so I have mentorship in teaching right away.” (accepted)
Mentorship 5	“Having a mentorship community having people who care about you coming was way more important than the money to me. As long as you’re at at certain level.”
Mentorship 6	“My postdoc advisor thought because I was a [parent] that I was not gonna be successful in an R1 and refused to help me and told me not to apply to jobs.” (participant is now a professor at an R1 institution)
Mentorship 7	“In some ways I haven’t had a lot of mentorship. [...] It feels like mentorship that I give is different than what I received.”
Mentorship 8	“They’re looking for someone to coordinate their [one of their degree] programs [...] and I got really excited about that aspect of it”. (declined)
Mentorship 9	“I was hoping to work in a place where the institution and my colleagues cared about teaching and mentoring well.”

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3.10 Hiring process

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Participants took a wide variety of approaches to deciding what jobs to apply for. Some applied to only a very small number of jobs (Table 10: Process 1, Process 3) while others applied to many (Table 10: Process 2), but participants generally had negative feelings about broad calls (Table 10: Process 1-3). Several participants were deterred by positions that requested reference letters up front (Table 10: Process 4). Timing of offers was also important (Table 1: Strongest 12; Table 10: Process 5). Participants were especially deterred by offers that required a response very quickly (Table 10: Process 6). Several participants described making the difficult decision of declining offers while waiting to hear back from an opportunity that they were more interested in (Table 1: Strongest 12). Finally, several participants found the search for a job to be tiring and that it hampered their productivity at their existing job (Table 10: Process 7).

Table 10: Quotes from participants about process.

Quote ID	Quote
Process 1	[I avoided really broad advertisements and limited the number of places I applied to because] “it’s a waste of time to submit an untailored application.”
Process 2	Broad calls are “just for them to go fishing and see what they can catch.” (applied to broad calls but felt it was a waste of time)

Process 3	“When I [saw job advertisements] that were in my field, I usually would look at their department. Do I know anybody in the department? If I did, I would contact them and [ask] ‘What are you looking for?’ [...] And if I didn’t know anybody and I was just looking at the list of faculty, I would try to see whether it felt like I could fit in the department in terms of my research interests. If there was somebody who already had my expertise, no, [...] you don’t want something like that. So I [would] look at the range of expertise, try to find out who recently retired, whose position are they trying to fill, how am I like them, how am I not like them, and then after all that, if I could see there’s a niche for me in this department, I see how I could fit in, I see how I can contribute, then I would usually apply. [...] I would typically only apply to like 2 [tenure-track faculty jobs] a year.”
Process 4	“I had some hesitation about applying because [...] I didn’t want to put undue load on my reference writers at the application stage. That dissuaded me at some places. [...] I appreciate [...] that more and more they would only contact the referees right before [...] the in-person interview stage.”
Process 5	“The timing matters.”
Process 6	“When I got the offer there was no opportunity to negotiate. They basically handed me an offer that included a salary and the startup and I had to decide to accept or decline it in two weeks. I don’t think that’s super common and I wasn’t expecting that.” (declined)
Process 7	“[Searching for a job] was just really tiring. And also I got to the point that it was just like, ‘I just don’t want to do this anymore’.”

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3.11 Teaching responsibilities

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Teaching responsibilities were an influential factor for many participants. Many participants said that they value teaching (Table 1: Strongest 16), but participants varied in their preference for a heavy (Table 11: Teaching 1), moderate (Table 11: Teaching 2), or light teaching load (Table 11: Teaching 3). For many, their reason for wanting a light teaching load was to have time for research (Table 11: Teaching 3). Several participants reported being asked to teach subjects that they felt were outside of their expertise (Table 11: Teaching 4) and another participant was deterred by being told that they were not qualified to teach a subject that they did feel qualified to teach (Table 11: Teaching 5). Several participants expressed a desire to have the freedom to choose what and how to teach (Table 11: Teaching 6). Mentorship in teaching was also viewed favorably (Table 11: Teaching 7). Participants noted that R1 institutions did not typically focus on teaching during the hiring process as much as predominantly-undergraduate institutions did (Table 11: Teaching 8). However, many participants stated or insinuated that an emphasis on teaching is positive, even at institutions that were not teaching focused (Table 11: Teaching 8). Overall, most participants favored a light teaching load but several favored a heavy teaching load. Regardless, participants generally valued teaching and were looking to have the resources to teach well, including mentorship in teaching and freedom in choosing which classes to teach and how to teach them.

Table 11: Quotes from participants about teaching responsibilities.

Quote ID	Quote
Teaching 1	“I like feeling like my work has an impact on society or people and teaching is a very direct way of feeling that.”
Teaching 2	“To me, tenure track, the thing that I like the most was the mix of the responsibility. I love research but I really enjoy mentorship and teaching as well.”
Teaching 3	“I was definitely choosing not to apply to some places that I knew were gonna have a really high teaching load because I was hoping for a scenario where I would be able to spend enough of my doing research.”
Teaching 4	“[One] thing that was a really big red flag for me was [...] towards the end [of the interview] they were like, ‘and we probably are going to need you to teach [a specific subject]’. You shouldn’t want me to teach [that subject]. Nor am I able to teach that.” (declined)
Teaching 5	“We were talking about courses that I could teach and [someone from the department] basically said, ‘well, you’re not [this type of scientist] so you wouldn’t be able to teach any courses [on that subject]’. But I’m like, ‘well, that’s what I do.’”
Teaching 6	“[The department chair] gave me freedom to do whatever so I got to develop curriculum, change curriculum, create new classes and I got to do it with the absolute freedom of no one telling me ‘you must do this’, but just trusting me to do a good thing. And I grew the program.”
Teaching 7	“When I accepted the offer the teaching faculty invited me to join in a program for all new faculty where they helped me and other tenure-track people design their first course. So they met with me often [...] helping me design a course.” (accepted)
Teaching 8	“[Teaching] didn’t come up in very much in two of my searches. I felt like it was just checking the box [they thought] ‘you’ve had some teaching experience and you’ve clearly thought about how to teach a class for more than 5 minutes.’ And that was kind of the bar to clear. It was a little bit more intensive than that at [one school where] I think [teaching is] just valued and prioritized a little bit more. I appreciated that about that search.”

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3.12 Other

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There were several other interesting themes which emerged which do not fit into any of the previous categories. Several participants noted pressure to accept a tenure-track job offer or a stigma against declining one because of how tenure-track jobs are perceived (Table 12: Other 1) and some participants’ perceptions of R1 institutions dissuaded them from applying (Table 12: Other 2). The reputation of an institution, positive or negative, influenced some participants’ decisions to apply for a job (Table 12: Other 3-5). One participant described struggling with impostor syndrome after securing a competitive tenure-track job (Table 12: Other 6). Another explicitly stated a concern about safety on college campuses (Table 12: Other 7). And finally, one participant succinctly summarized the experience as “very personal” (Table 12: Other 8).

Table 12: Quotes from participants about other themes.

Quote ID	Quote
Other 1	“There are going to be all these people who think I’m crazy for turning down a tenure-track faculty position.”
Other 2	“I wasn’t looking at R1 institutions. I didn’t want to be in the rat race experiencing the kinds of things that I saw knowing people in those departments and listening to the way they spoke about those kinds of jobs and the kinds of people in those jobs and the kinds of expectations on those folks.”
Other 3	“Hearing about [a friend’s] overall very positive experience made me more excited about the position.”
Other 4	“I also avoided some departments where I knew there were real a**holes that were faculty.”
Other 5	“There are places I will not even consider because they don’t make consequences happen to faculty who are behaving unacceptably.”
Other 6	“Both during the job search and especially once I got this job I experienced a pretty significant amount of imposter syndrome. Especially because this was the job that was really the dream one that I wanted the most and a lot of other people applied to it. It’s almost impossible to not question why you got it.”
Other 7	“There have been some tragic incidents where students have acted aggressively toward faculty.”
Other 8	“In academia, job searches can get very personal. [...] Accepting them into their department or if someone leaves it’s very dramatic or declining is a big deal. [...] It can hamper professionalism, I think, because how personally people take it (on both sides).”

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4 Discussion

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4.1 Limitations

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This study describes experiences in the United States and focuses primarily (but not exclusively) on tenure-track faculty jobs. We also focus primarily on experiences between 2016 and 2023. The 2016 to 2023 period included the COVID19 pandemic, which modified the job search process for some participants. Further, the 2016 to 2023 period included the “Me Too” movement and Women’s March in 2017 and the reinvigoration of the “Black Lives Matter” movement following George Floyd’s murder in 2020, which have prompted nationwide discussions about diversity and inclusion, including on college campuses. Therefore, hiring practices may have evolved over this time.

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Gender and race/ethnicity are not the only aspects of people’s identities that can be associated with barriers to successful participation. Participants were free to discuss any aspect of their identities, but findings about aspects other than gender and race/ethnicity are not well sampled. Further, we recruited more participants from underrepresented genders (especially cisgendered women) than from underrepresented races/ethnicities. Based on previous work and the findings of this work, the barriers associated with different aspects of identity differ and therefore actions taken to make the geosciences more inclusive to cisgendered women do not necessarily improve inclusivity for other underrepresented groups.

There are potential limitations associated with our methods. Excluding cisgendered white men from our study comes with limitations. We chose to exclude this demographic because the perspectives of cisgendered white men have historically been well represented in the geosciences. However, cisgendered white men can hold marginalized identities, and the faculty job market can be challenging for geoscientists of all identities. Voluntary participation may have influenced our sample of participants. Further, participants were interviewed by someone in their broad field, and may have adjusted their responses knowing that they may already know their interviewer or with the knowledge that they may encounter the interviewer in the future.

4.2 Implied recommendations

Each participant's unique hiring experiences together yielded a rich dataset that highlights several areas of improvement for departmental hiring practices. Several of these practices have been studied in depth in previous research and several more warrant future research. Nonetheless, given the urgency of improving faculty hiring in the geosciences, especially for geoscientists from underrepresented groups, we compile some recommendations for hiring practices based on our findings. These recommendations are described in the text below and summarized in Table 13.

Table 13: Summary of recommendations.

<p>Resolve underlying institutional issues</p> <ul style="list-style-type: none"> • Improve student satisfaction • Improve faculty satisfaction • Improve work-life balance • Improve department cohesion • Reduce unprofessional behavior • Eliminate misconduct
<p>Increase departmental awareness of hiring best practices</p> <ul style="list-style-type: none"> • Avoid asking illegal questions • Avoid disparaging behavior toward candidates • Offer candidates accommodations via a neutral party • Maintain professionalism during interviews • Engage fully with all candidates • Avoid alcohol
<p>Negotiate in good faith</p> <ul style="list-style-type: none"> • Make the negotiation process transparent • Work with candidate's timelines and individual preferences • Accommodate the desires of the candidate's partner • Be polite and respectful throughout the negotiation • Offer competitive compensation

<p>Improve and communicate support for partners and children</p> <ul style="list-style-type: none"> • Facilitate finding an exciting employment opportunity for a partner (if applicable) • Improve and communicate support for parents • Improve and communicate work-life balance
<p>Support departmental DEI efforts</p> <ul style="list-style-type: none"> • Diversify the department at all levels • Be well-informed about DEI issues • Encourage senior faculty to participate in DEI efforts
<p>Respect personal identities</p> <ul style="list-style-type: none"> • Be aware of invisible identities • Use correct pronouns • Support international faculty in securing a visa • Avoid tokenizing candidates
<p>Improve and communicate mentorship programs</p> <ul style="list-style-type: none"> • Mentor junior faculty, including in teaching • Encourage and support faculty in mentoring students and postdocs
<p>Make the hiring process candidate friendly</p> <ul style="list-style-type: none"> • Request letters of recommendation for finalists only • Give candidates sufficient time to make a decision • Avoid fatiguing candidates • Avoid broad searches
<p>Harmonize teaching responsibilities</p> <ul style="list-style-type: none"> • Offer mentorship in teaching for new faculty • Consider candidates preferences and qualifications in course assignment • Be clear about teaching expectations • Make course releases for new professors standard

Importantly, we find that candidates get a strong impression of the institution's culture during the hiring process, and underlying issues are often visible to candidates. The kinds of problems that participants witnessed during campus visits include student dissatisfaction, faculty dissatisfaction, infighting within the faculty, conflicts surrounding faculty members who have a reputation for misconduct (such as sexual harassment), and unprofessional behavior (such as disparaging comments and shouting). Since many participants were able to get a strong sense of the department culture during their interviews, and since many candidates were looking for a job with a good culture and work-life balance, supporting improvements to departmental culture and the work-life balance of existing faculty may be helpful in recruitment. *In short, institutions may doubly benefit from improving their culture: in addition to benefiting current members of the institution, it may also help with recruitment.*

Based on participants' responses about interview experiences, it is clear that institutions are still unaware of hiring best practices because two participants reported being asked illegal questions and several others reported disparaging comments. Institutions can improve the experience for interviewees by providing any necessary accommodations to candidates via a neutral third party. Further, it is important to maintain a high standard of professionalism during interviews. Institutions should ensure that interest is demonstrated in the candidate's research throughout the search process by engaging fully with the candidate's application materials and ensuring that the candidate's seminar(s) is/are well attended. Members of the institution who interact with the candidate should be aware of what questions can and cannot legally be asked during an interview, including during socialization outside of the formal interview. Members of the institution who interact with the candidate should be aware that alcohol can put a candidate in an uncomfortable situation, especially since many of the reasons why a candidate may not want to drink relate to the protected identities that are not legal to ask about during interviews (such as religion and pregnancy), and geoscientists from underrepresented groups are more likely to feel uncomfortable with the amount of alcohol in professional settings (Marín-Spiotta et al., 2023). Finally, as many candidates were using student interactions to evaluate the department, candidates should have opportunities to interact with students.

Participants' responses about offers and negotiation indicate that institutions can improve the experience for candidates by negotiating in good faith. More specifically, institutions can benefit from having a transparent negotiation process, working with a candidate's timeline, finding a strong opportunity for a candidate's partner (if applicable) (Holmes, 2015a; Schiebinger et al., 2008), being polite and respectful toward the candidate throughout the process, and offering competitive compensation. More specifically, many participants were looking for enough compensation to buy or rent a home adequate for their family, to be able to afford childcare, to have enough money to travel to see family, and/or to be able to support a partner if a partner hire was not an option. Further, several participants were looking for lab space commensurate with their research goals.

Based on participants' responses about family, institutions can improve the experience for candidates by being clear about the support systems in place for faculty with partners and children to all candidates. As mentioned above, helping to secure an exciting opportunity for a partner, if applicable, can help to make an offer more appealing. However, our findings show a mix of outcomes, with many participants declining an offer due largely to a lack of a good opportunity for their partner. This suggests that partner hiring is an area of improvement for some universities and departments in hiring diverse candidates (Holmes, 2015a; Schiebinger et al., 2008). Similarly, support for parents has come up in the literature for improving gender diversity (Holmes & O'Connell, 2003; O'Connell, 2015). However, for participants with children, there were additional considerations including a salary with which they could support children in the university's location, geographic preferences influenced by raising children, and work-life balance. Some participants mentioned challenges associated with being parents, including low salary offers and being unsure about when to mention their children. This suggests that parenthood is an area of improvement for some universities and departments in hiring. Since many participants were able to get a strong sense of the department culture during their interviews, and since many candidates are looking for a job with good work-life balance, supporting the work-life balance of existing faculty may be helpful in recruitment.

From participants' responses, it is clear that geographic preferences often play a strong role in the decision to accept or decline an offer. While an institution cannot easily move to a more desirable location, there may be ways to address candidates' geographic preferences or concerns, such as through flexible work. Further, since many of the geographic preferences were tied to politics and personal identities, universities may ben-

efit from working to make their communities desirable places to live for a diverse group of people. How universities may do so (e.g. housing their students and faculty, engaging in politics) is a potentially important area of future research. Preferences of geographic location have come up only briefly in relevant past literature. Oermann et al. (2016) noted the difficulty of hiring nursing faculty in rural locations and Taylor et al. (2010) noted that universities in areas with a high cost of living face challenges recruiting faculty. However, none of this literature is focused on the geosciences specifically or addresses the political considerations that were mentioned by several participants. Therefore, preferences of geographic location and hiring is an area worthy of future study, especially as it relates to political and personal identities.

Based on participants' responses about DEI, institutions can improve the experience for candidates by actively engaging in and supporting DEI work and sharing that with candidates. In particular, institutions can be more attractive to candidates by improving the diversity of their institutions and talking about DEI in a well-informed way. Since candidates were wary of institutions where DEI work fell predominantly on students and young faculty, encouraging senior faculty to engage in DEI work can help make an offer more appealing to candidates.

Based on participants' responses about personal identities, institutions can improve the experience for candidates by diversifying their institutions and speaking respectfully about personal identities, even ones they may not be aware of. In particular, helping candidates with any visa needs they may have (Talavera-Soza, 2023), and using a candidate's correct pronouns can all help make an offer more appealing. More nuanced, participants often felt tokenized during the hiring process. Actions that led a participant to feel tokenized during the hiring process included overemphasizing how diverse a new cohort was, pressuring candidates to speak about their personal identities during the interview, and generally making candidates feel viewed as only a diversity hire. Participants expressed a desire to feel like they would be valued for their contributions beyond their contributions to diversity and to feel like they were going to be supported by their institution. Therefore, being careful not to tokenize candidates from underrepresented groups can help make an offer more appealing to candidates.

Based on participants' responses about mentorship, institutions can improve their hiring process by having strong mentorship systems for new hires and describing those mentorship systems to candidates. The importance of mentorship has been identified for improving gender and racial/ethnic diversity (Lozier & Clem, 2015; Zambrana et al., 2015). Consistently, we found that participants valued having good mentorship, and many participants expressed a specific interest in mentoring students. Therefore, prioritizing mentoring students well can make an offer more appealing to candidates.

Based on participants' responses about process, institutions can improve their hiring process by requesting reference letters late in the process, considering candidates' timelines by giving them sufficient time to make a decision, mitigating how tiring the process can be for applicants, and avoiding using really broad searches. Participants generally appreciated when recommendation letters were requested relatively late in the application stage. Requesting letters late in the process and reducing their weight may be doubly beneficial because women are less likely to receive excellent reference letters than men (Dutt et al., 2016). Interestingly, several participants were deterred by broad advertisements, which is inconsistent with the notion that broader calls can help diversify the applicant pool (O'Connell & Holmes, 2015).

Based on participants' responses about teaching responsibilities, institutions can improve their hiring process by working to align teaching responsibilities with the candidate's preferences. More specifically, institutions can prioritize teaching by having strong mentorship systems for new faculty, considering candidates' preferences for what courses to teach, and being clear about teaching expectations during the hiring process. Addi-

tionally, several participants described wanting course releases in the early part of their faculty job to have time to prepare their course materials while building their research groups. Therefore, making course releases a standard part of a new hire's start-up may help with recruitment.

Overall, many of the interventions that have been recommended by previous work, as described in the introduction, were viewed favorably by competitive candidates holding underrepresented racial, ethnic, and gender identities. Therefore, departments are likely to benefit from continued evaluation of hiring practices.

Appendix A Survey questions

- Which best describes your area of research? (Earth Science, Ocean Science, Atmospheric Science, Planetary Science, Other)
- What is your current position?
- How many tenure-track faculty offers in the geosciences have you declined (If possible, within the last 7 years)?
- Asked for each declined offer: In the spaces below, please input the name of a university and department from whom you declined an offer, as well as the year that the offer was made to you.
- What is your gender?
- Are you Hispanic or Latino (yes, no)?
- What is your racial background? (Participants could select as many options as they like from the following list: White, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, Other)
- Would you be willing to participate in a 45 minute virtual interview about your experience applying for a job in the geosciences?
- If so, please enter your name and email address below.

Appendix B Interview questions

1. Before we start talking about the search for a permanent job, tell me a little bit about your journey into the geosciences. (This question was intended as a warm up.)
2. Where were you when you started applying for your current position?
3. How many jobs did you apply for and how many of them were faculty jobs?
4. Were you sure you wanted a tenure-track faculty job at the time that you applied for your position? Were you considering other kinds of positions?
5. What characteristics were you looking for when deciding to apply or not to apply for a job? This can include characteristics that pertain to your personal life.
6. Briefly, what made you decline the offer(s) that you did and what made you accept the offer that you did?
7. Were there any aspects of the interview process that made you more or less interested in a job? This can include interviews for jobs other than your current position.
8. Were there any aspects of the offer or negotiation process that made you more or less interested in a job? This can include offers and negotiations for faculty jobs other than your current position.
9. Did you have any other contact with academic departments that were hiring that influenced your decision (e.g. Invitation to apply, Conversations with members of that department)?
10. Were you asked to talk about DEI in your application materials or interviews?
11. Were you asked to talk about teaching in your application materials or interviews?

12. How do you think your personal identities influenced your faculty search process?
 Your answer does not have to be limited to race and gender.
13. Did a partner, family, or caretaking responsibility influence your job search?
14. Is there anything else you would like to share with us about your faculty job search?

Appendix C Open Research

Given the confidential nature of this work, the data cannot be made available.

Appendix D Conflict of Interest

The authors have no conflicts of interest to declare.

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