

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

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20 **Key Points:**

- 21 • Interviews with geoscientists from underrepresented groups reveal details of the
22 decision-making process related to faculty job offers
- 23 • Strongest factors included geographic preferences, colleagues and resources, fam-
24 ily, teaching duties, interview experiences, and salary
- 25 • Participants' personal identities often influenced their decisions, especially through
26 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

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

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

107 Previous research has recommended a number of interventions to diversify faculty,
108 including supporting dual-career couples; implementing family-friendly policies; improv-
109 ing mentorship, career development, and networking opportunities; increasing the vis-
110 ibility of diverse faculty; and changing hiring practices. Procedures supporting dual-career
111 couples and family responsibilities are particularly important for the recruitment and
112 retention of women faculty because women faculty in the natural sciences are dispropor-
113 tionately likely (48% of women and 35% of men) to have academic partners (Schiebinger
114 et al., 2008). Successful interventions to improve hiring for dual-career couples include
115 appointing a neutral liaison to support dual-career couples, using resources such as the
116 higher education dual career network (HEDCN) and higher education recruitment con-
117 sortium (HERC), appointing a partner to an academic position within the university (with
118 funding), or split appointments for partners in the same field (Holmes, 2015a). A sci-
119 entist’s childbearing years often overlap with critical career stages, including graduate
120 student, postdoc, and assistant professor positions. Moreover, parenthood affects women’s
121 preferences about work-life balance more than men’s (Ferriman et al., 2009). Success-
122 ful interventions for supporting parents include time and space for breastfeeding (O’Connell,
123 2015), paid parental leave, part-time work options, funding for backup child care, and
124 on-site child care (Dutt, 2015).

125 Effective mentorship of junior faculty can increase retention (Lozier & Clem, 2015).
126 Successful interventions to improve mentoring include formal mentoring programs, such
127 as Mentoring Physical Oceanography Women to Increase Retention (MPOWIR) (Lozier
128 & Clem, 2015), and department-hosted career development and networking events (Bhalla,
129 2019; Dutt, 2015; Lozier & Clem, 2015). Awards can help propel an early-career scien-

130 tist, but selection can be subject to implicit biases without care. Successful interventions
131 have included awards for excellence in mentorship and taking steps to reduce implicit
132 bias in award nominations and selection (Dutt, 2015; Holmes, 2015b). Furthermore, some
133 institutions have seen success by making changes to their hiring practices (Dutt, 2015).
134 Examples of such practices include changes in how positions are advertised (Bhalla, 2019;
135 Dutt, 2015), having broader searches (O’Connell & Holmes, 2015), changes to the com-
136 position of hiring committees (Bhalla, 2019; Dutt, 2015), educating the search commit-
137 tee on best practices (Bhalla, 2019; Dutt, 2015; Holmes, 2015b), and cluster hiring (Freeman,
138 2019). In addition to making their own practices more inclusive, search committees can
139 evaluate candidates based on their demonstrated commitments to diversity and mentor-
140 ship.

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

157 2 Methods

158 2.1 Participant recruitment

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

173 We recruited interview participants using a variety of affinity group and institu-
174 tional email lists and social media pages. These include the Earth Science Women’s Net-
175 work (ESWN), the American Geophysical Union (AGU), NSF National Center for At-
176 mospheric Research (NSF NCAR), the Massachusetts Institute of Technology- Woods
177 Hole Oceanographic Institution (MIT-WHOI) joint program, Asian Americans and Pa-
178 cific Islanders in Geosciences (AAPIIG), the United States Geological Survey (USGS),
179 and Cryolist. We used this convenience sampling approach because there was no way to
180 develop a complete sampling frame (an exhaustive list of all members of a population

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

186 Participants were first asked to fill out a screening survey with basic questions about
 187 their job search, their current position, their gender, race, ethnicity, and their willing-
 188 ness to participate in an interview (Appendix A). Based on their responses, survey re-
 189 spondents were invited to participate in a 45 minute interview about their job search if
 190 they

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

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

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

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

214 **2.2 Interview methods**

215 Each of the 19 participants did an interview of approximately 45 minutes with the
 216 lead author of the paper. The interview approach followed standard ethical guidelines
 217 and was approved by NSF NCAR’s Human Subjects Committee (HSC). We used a *semi-*
 218 *structured* interview protocol to get an overview of the hiring experiences of the partic-
 219 ipants, while leaving space to probe additional emergent themes (Alvesson & Ashcraft,
 220 2012). This interview style allows us to draw on a standard list of questions (Appendix
 221 B), while allowing the interview to unfold by pursuing concepts raised by participants
 222 (Luo & Wildemuth, 2009). We chose this method because semi-structured interviews offer
 223 an opportunity to hear rich descriptions and detailed information about personal feel-
 224 ings, perceptions, and opinions.

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

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

235 The 19 interviews were recorded and transcripts were created. Using the record-
 236 ings and transcripts, the lead author made a table which summarized each participant's
 237 responses and included any relevant quotes. Each column of the table corresponds to a
 238 theme. Themes were determined by the lead author, with some themes corresponding
 239 directly to one of the interview questions (Experiences during job interviews corresponds
 240 to question 7, negotiations and offers corresponds to question 8, DEI corresponds to ques-
 241 tion 10, personal identities corresponds to question 12, and family corresponds to ques-
 242 tion 13). For the remaining questions, responses were separated into the following com-
 243 mon themes: fit and resources, geographic preferences, mentorship, hiring process, and
 244 teaching responsibilities. If a participant's response was relevant to multiple themes, it
 245 was included in each relevant column of the table. For each theme, the range of responses
 246 is summarized in a subsection of Section 3, with a few themes combined, by both describ-
 247 ing the range of responses in the text and highlighting a few exemplary quotes in the ta-
 248 bles.

249 **3 Findings**

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

268 **3.1 Strongest factors**

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

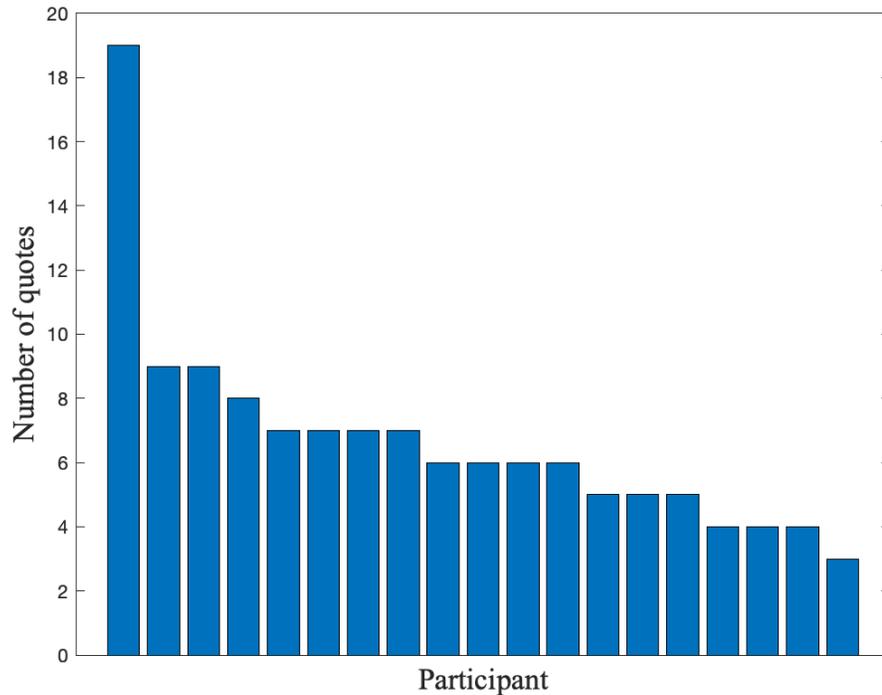


Figure 1. Number of quotes per participant.

278 Geographic preferences played a prominent role for many of the participants (Ta-
 279 ble 1: Strongest 1-6, Strongest 8, Strongest 11, Strongest 13-14, Strongest 17). For many
 280 participants, geographic preference is tied to their family or their partner’s family (Ta-
 281 ble 1: Strongest 1-3, Strongest 5, Strongest 8, Strongest 11). Separate from geographic
 282 preferences, family, especially partner, was a deciding factor for several participants (Ta-
 283 ble 1: Strongest 9-10, Strongest 19). Further, the resources of the institution and fit with
 284 the colleagues were deciding factors for many participants (Table 1: Strongest 1, Strongest
 285 4-9). Several participants were swayed by the specifics of the faculty job being offered
 286 including the ratio of research to teaching (Table 1: Strongest 8, Strongest 13-16). For
 287 several participants, what they experienced during their on-campus interviews played
 288 a deciding role in their decision (Table 1: Strongest 4, Strongest 8, Strongest 17-18). One
 289 participant declined a job because they were not given enough time to make a decision;
 290 the participant was waiting to hear back about other applications (Table 1: Strongest
 291 12). For three participants, a low salary offer dissuaded them from a position (Table 1:
 292 Strongest 19-21). Finally, participants’ personal identities and those of the students in-
 293 fluenced the decisions of several participants (Table 1: Strongest 3-4, Strongest 8, Strongest
 294 13).

295 In the following subsections, we give more detail about participant responses to these
 296 themes, including responses from participants who did not necessarily identify a theme
 297 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)

298

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)

310

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).

330 Overall, we find that job candidates get a strong impression of the institution’s cul-
 331 ture during on campus visits, including underlying issues. This culture affects decision-
 332 making. Candidates also perceived that the way they confronted issues during their in-
 333 terviews affected whether or not they get an offer, which may be one way that institu-
 334 tions 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.”

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3.4 Negotiations and offers

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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: Negation 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.

357 For most participants, salary was the most important part of the offer, but for some,
 358 it was lab space. For seven participants, the offer was inadequate and they ultimately
 359 declined the offer, and two accepted despite poor offers. A surprising number of partic-
 360 ipants mentioned very low offers (Table 4: Negotiation 12). In fact, five participants de-
 361 scribed salary offers that were lower than what they were making as a postdoc (Table
 362 1: Strongest 21; Table 4: Negotiation 11, Negotiation 14). Some participants were put
 363 off by low salary offers because they felt the offers were not enough to support themselves
 364 and their families (Table 4: Negotiation 11), while for others it raised concerns about
 365 how faculty are treated (Table 4: Negotiation 13).

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

375 Three additional participants (for a total of 12) mentioned retention offers, two ac-
 376 cepted (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).

393 Six of the participants requested partner hires as part of the negotiation and were
 394 met with a mix of responses. Two of them successfully negotiated partner hires and ac-
 395 cepted the position. Three were met with a negative response and ultimately declined
 396 the offer. One participant asked for a partner hire at two different institutions, one gave
 397 a negative response and the other found an opportunity for the partner but it was not
 398 as exciting of an opportunity as the partner’s existing position (Table 4: Negotiation 4).
 399 The participant declined them both. In addition to the 6 participants who requested part-
 400 ner hires from the institution(s) that made them a(n) offer(s), 10 participants mentioned
 401 their partner playing a role in their decision. In some cases, their partner’s job or pref-
 402 erences was one of, if not the single deciding factor for the participant (Table 1: Strongest
 403 2, Strongest 5, Strongest 8-11, Strongest 19). While it is clear that partners added a con-
 404 straint to participants, one participant mentioned the unique difficulties of being single
 405 (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.”

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3.6 Geographic preferences

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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:

412 Geography 4-5), feeling safe in a community (Table 6: Geography 6), race relations (Ta-
 413 ble 6: Geography 7), diversity (Table 6: Geography 8), being near family (Table 1: Strongest
 414 3, Strongest 8; Table 6: Geography 9), their partner’s geographic preference (Table 1:
 415 Strongest 1-2, Strongest 5, Strongest 10), and a preference for a city (Table 6: Geogra-
 416 phy 8-9) were the most cited reasons for having a geographic preference. Geographic pres-
 417 ence was such a strong factor for so many participants across different personal identi-
 418 ties, that we believe it warrants more discussion.

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

428 Focusing on the political preferences of participants, every participant who men-
 429 tioned a political preference preferred liberal areas to conservative areas. Most partic-
 430 ipants who mentioned political preferences described recent changes to the political land-
 431 scape in the United States, such as interference with the tenure process, changes in ac-
 432 cess to reproductive care in specific states after the overturn of *Roe V. Wade* in 2022,
 433 recent restrictions in access to gender-affirming care in some states, and the illumina-
 434 tion of racial tension in some US cities (e.g. Minneapolis, MN and Louisville, KY). Par-
 435 ticipants were concerned by some of these changes for the sake of themselves, their fam-
 436 ilies, 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 scien- tist.”
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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479 3.9 Mentorship

480 Several participants emphasized the importance of mentorship from Ph.D. and post-
481 doc advisors (Table 9: Mentorship 1-2), peers (Table 9: Mentorship 3), and mentorship
482 in teaching (Table 9: Mentorship 4). One participant even stated that they felt mentor-
483 ship outweighed compensation (Table 9: Mentorship 5). Some participants did not feel
484 that they received adequate mentorship (Table 9: Mentorship 6-7). On the other hand,
485 for many participants, a job with a mentorship component appealed to them (Table 9:
486 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 untailed 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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501 3.11 Teaching responsibilities

502 Teaching responsibilities were an influential factor for many participants. Many par-
 503 ticipants said that they value teaching (Table 1: Strongest 16), but participants varied
 504 in their preference for a heavy (Table 11: Teaching 1), moderate (Table 11: Teaching 2),
 505 or light teaching load (Table 11: Teaching 3). For many, their reason for wanting a light
 506 teaching load was to have time for research (Table 11: Teaching 3). Several participants
 507 reported being asked to teach subjects that they felt were outside of their expertise (Ta-
 508 ble 11: Teaching 4) and another participant was deterred by being told that they were
 509 not qualified to teach a subject that they did feel qualified to teach (Table 11: Teach-
 510 ing 5). Several participants expressed a desire to have the freedom to choose what and
 511 how to teach (Table 11: Teaching 6). Mentorship in teaching was also viewed favorably
 512 (Table 11: Teaching 7). Participants noted that R1 institutions did not typically focus
 513 on teaching during the hiring process as much as predominantly-undergraduate institu-
 514 tions did (Table 11: Teaching 8). However, many participants stated or insinuated that
 515 an emphasis on teaching is positive, even at institutions that were not teaching focused
 516 (Table 11: Teaching 8). Overall, most participants favored a light teaching load but sev-
 517 eral favored a heavy teaching load. Regardless, participants generally valued teaching
 518 and were looking to have the resources to teach well, including mentorship in teaching
 519 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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535 This study describes experiences in the United States and focuses primarily (but
 536 not exclusively) on tenure-track faculty jobs. We also focus primarily on experiences be-
 537 tween 2016 and 2023. The 2016 to 2023 period included the COVID19 pandemic, which
 538 modified the job search process for some participants. Further, the 2016 to 2023 period
 539 included the “Me Too” movement and Women’s March in 2017 and the reinvigoration
 540 of the “Black Lives Matter” movement following George Floyd’s murder in 2020, which
 541 have prompted nationwide discussions about diversity and inclusion, including on col-
 542 lege campuses. Therefore, hiring practices may have evolved over this time.

543 Gender and race/ethnicity are not the only aspects of people’s identities that can
 544 be associated with barriers to successful participation. Participants were free to discuss
 545 any aspect of their identities, but findings about aspects other than gender and race/ethnicity
 546 are not well sampled. Further, we recruited more participants from underrepresented gen-
 547 ders (especially cisgendered women) than from underrepresented races/ethnicities. Based
 548 on previous work and the findings of this work, the barriers associated with different as-
 549 pects of identity differ and therefore actions taken to make the geosciences more inclu-
 550 sive to cisgendered women do not necessarily improve inclusivity for other underrepre-
 551 sented groups.

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

561 4.2 Implied recommendations

562 Each participant’s unique hiring experiences together yielded a rich dataset that
 563 highlights several areas of improvement for departmental hiring practices. Several of these
 564 practices have been studied in depth in previous research and several more warrant fu-
 565 ture research. Nonetheless, given the urgency of improving faculty hiring in the geosciences,
 566 especially for geoscientists from underrepresented groups, we compile some recommen-
 567 dations for hiring practices based on our findings. These recommendations are described
 568 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

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

581 Based on participants' responses about interview experiences, it is clear that in-
 582 stitutions are still unaware of hiring best practices because two participants reported be-
 583 ing asked illegal questions and several others reported disparaging comments. Institu-
 584 tions can improve the experience for interviewees by providing any necessary accommo-
 585 dations to candidates via a neutral third party. Further, it is important to maintain a
 586 high standard of professionalism during interviews. Institutions should ensure that in-
 587 terest is demonstrated in the candidate's research throughout the search process by en-
 588 gaging fully with the candidate's application materials and ensuring that the candidate's
 589 seminar(s) is/are well attended. Members of the institution who interact with the candi-
 590 date should be aware of what questions can and cannot legally be asked during an in-
 591 terview, including during socialization outside of the formal interview. Members of the
 592 institution who interact with the candidate should be aware that alcohol can put a candi-
 593 date in an uncomfortable situation, especially since many of the reasons why a candi-
 594 date may not want to drink relate to the protected identities that are not legal to ask
 595 about during interviews (such as religion and pregnancy), and geoscientists from under-
 596 represented groups are more likely to feel uncomfortable with the amount of alcohol in
 597 professional settings (Marín-Spiotta et al., 2023). Finally, as many candidates were us-
 598 ing student interactions to evaluate the department, candidates should have opportu-
 599 nities to interact with students.

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

610 Based on participants' responses about family, institutions can improve the experi-
 611 ence for candidates by being clear about the support systems in place for faculty with
 612 partners and children to all candidates. As mentioned above, helping to secure an ex-
 613 citing opportunity for a partner, if applicable, can help to make an offer more appeal-
 614 ing. However, our findings show a mix of outcomes, with many participants declining
 615 an offer due largely to a lack of a good opportunity for their partner. This suggests that
 616 partner hiring is an area of improvement for some universities and departments in hir-
 617 ing diverse candidates (Holmes, 2015a; Schiebinger et al., 2008). Similarly, support for
 618 parents has come up in the literature for improving gender diversity (Holmes & O'Connell,
 619 2003; O'Connell, 2015). However, for participants with children, there were additional
 620 considerations including a salary with which they could support children in the univer-
 621 sity's location, geographic preferences influenced by raising children, and work-life bal-
 622 ance. Some participants mentioned challenges associated with being parents, including
 623 low salary offers and being unsure about when to mention their children. This suggests
 624 that parenthood is an area of improvement for some universities and departments in hir-
 625 ing. Since many participants were able to get a strong sense of the department culture
 626 during their interviews, and since many candidates are looking for a job with good work-
 627 life balance, supporting the work-life balance of existing faculty may be helpful in recruit-
 628 ment.

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

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

644 Based on participants' responses about DEI, institutions can improve the experi-
645 ence for candidates by actively engaging in and supporting DEI work and sharing that
646 with candidates. In particular, institutions can be more attractive to candidates by im-
647 proving the diversity of their institutions and talking about DEI in a well-informed way.
648 Since candidates were wary of institutions where DEI work fell predominantly on stu-
649 dents and young faculty, encouraging senior faculty to engage in DEI work can help make
650 an offer more appealing to candidates.

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

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

671 Based on participants' responses about process, institutions can improve their hir-
672 ing process by requesting reference letters late in the process, considering candidates' time-
673 lines by giving them sufficient time to make a decision, mitigating how tiring the pro-
674 cess can be for applicants, and avoiding using really broad searches. Participants gen-
675 erally appreciated when recommendation letters were requested relatively late in the ap-
676 plication stage. Requesting letters late in the process and reducing their weigh may be
677 doubly beneficial because women are less likely to receive excellent reference letters than
678 men (Dutt et al., 2016). Interestingly, several participants were deterred by broad ad-
679 vertisements, which is inconsistent with the notion that broader calls can help diversify
680 the applicant pool (O'Connell & Holmes, 2015).

681 Based on participants' responses about teaching responsibilities, institutions can
682 improve their hiring process by working to align teaching responsibilities with the can-
683 didate's preferences. More specifically, institutions can prioritize teaching by having strong
684 mentorship systems for new faculty, considering candidates' preferences for what courses
685 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?

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

738 Appendix C Open Research

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

740 Appendix D Conflict of Interest

741 The authors have no conflicts of interest to declare.

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