Strategies for and Barriers to Collaboratively Developing Anti-Racist Policies and Resources as Described by Geoscientists of Color Participating in the Unlearning Racism in Geoscience (URGE) Program

Carlene Burton1, Gabriel Duran2, Vashan Wright1,3, and Rebecca Chmiel1

1Scripps Institution of Oceanography, University of California San Diego, La Jolla, CA, USA, 2University of Quebec at Montreal, Montreal, QC, Canada, 3Woods Hole Oceanographic Institution, Woods Hole, MA, USA

Abstract The Unlearning Racism in Geosciences (URGE) program guides groups of geoscientists as they draft, implement, and assess anti-racist policies and resources for their workplace. Some participating Geoscientists of Color (GoC) shared concerns about microaggression, tokenism, and power struggles within their groups. These reports led us to collect and analyze data that describe the experiences of GoC in URGE. The data are from five discussion groups and two surveys. Our analyses revealed that participating GoC want to continue working with White colleagues on anti-racist work. GoC want White colleagues not to shy away from doing anti-racist work. Instead, GoC want White colleagues (a) to create and adhere to robust behavioral codes of conduct, (b) to focus discussions on anti-racism, (c) to act on anti-racism initiatives, (d) not to prompt GoC to educate them or reveal trauma, and (e) to refrain from microaggressions and tokenism. These desired outcomes were achieved in some groups with varying degrees of success. Correcting a history of mistrust relating to racism and anti-racism action is key to implementing and assessing effective anti-racist policies and resources. This requires leadership support, following through on anti-racism action, and deepening relationships between GoC and White colleagues. Future anti-racist programs should spend a substantial amount of time on and demonstrate the importance of training participants how to discuss racism effectively and how to create and adhere to robust behavioral codes of conduct. Future programs should also explore developing a robust program-wide code of conduct that includes a policy for reporting offenses.

Key Points:
- Geoscientists of Color want to continue collaborating with White geoscientists to create and implement anti-racist policy and resources.
- Effective anti-racist collaborations require skilled moderators, accountability, and adherence to behavioral codes of conduct.
- Leadership support and re-building trust are critical to successfully implementing anti-racist policies and resources within geoscience.

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1. Introduction

Geoscience has a racial diversity and racism problem—i.e., the systems, structures, and practices within the discipline perversely exclude and or put Black, Indigenous, and Other People of Color (BIPOC) at a disadvantage compared to White People (Alderman et al., 2021). The number of People of Color receiving a Ph.D. in geoscience has not significantly increased in at least 46 years (Beane et al., 2021; Bernard & Cooperdock, 2018; Wilson, 2018). This claim is supported by the observations that, between 1973 and 2019, the percentage of Students of Color receiving doctoral geoscience degrees fluctuated between ~6%–10% per year (Beane et al., 2021; Bernard & Cooperdock, 2018; Wilson, 2018). Notably, the growth in the total number of BIPOC who enter and remain in Geoscience is marginal compared to several other science, technology, engineering, and math (STEM) disciplines (e.g., mathematics, chemistry, and physics) (Keane, 2018).
Geoscientists have tried to solve racial diversity and racism issues in various ways. Our examination of initiatives funded by the National Science Foundation indicates that geoscience racial diversity initiatives primarily focus on educating White geoscientists about the effects of racism on Geoscientists and Students of Color, creating additional geoscience opportunities that only People of Color should apply to and benefit from (e.g., internships, scholarships, fellowships, and mentorship programs), creation of affinity groups for Geoscientists of Color (GoC). Some groups have spent approximately 5–7 days highlighting and discussing the scientific contributions and experiences of GoC (e.g., Black in Geoscience, Atmospheric, and Marine Science Weeks). Anti-racism efforts, defined as initiatives that proactively seek to support GoC while eradicating or reducing the systems, structures, and practices that lead to the exclusion, marginalization, and under-representation of GoC, have also become commonplace. For example, the Unlearning Racism in Geoscience (URGE) program focuses on helping geoscientists use journal articles, information from interviews with anti-racist experts, and the participants’ personal experiences to discuss and draft anti-racism policies and resources for their workplaces. Regardless of their nature and aims, the success of many geoscience diversity programs partly depends on White geoscientists and GoC collaborating successfully. Two important questions that we answer in this study include (a) whether collaborations between White geoscientists and GoC are occurring in ways that support versus hinder anti-racism progress and (b) what factors influence the effectiveness of the ongoing collaborations on anti-racism.

Our study makes progress in assessing the effectiveness of collaborations between White Geoscientists and GoC by summarizing and analyzing the experiences of GoC that collaborated with White geoscientists to create anti-racist policies and resources during the URGE program. In this study, we define effective collaborations as those that achieve their goals, reduce unnecessary conflict between participants, do not cause substantial emotional harm or exhaustion to participants, and where all participants feel free to speak without fear of reprisals. The responses of GoC in URGE likely represent the geoscience population because the program has engaged a substantial portion of the geoscience population, 3,920 geoscientists at 310 academic institutions, federal agencies, non-governmental organizations, and professional societies. Our data are from discussion groups and surveys. We report on the elements that contributed to effective collaborations and those that caused potential harm.

2. Background

Effective conversations and collaborations about racism in multiracial groups (heterogenous grouping of People of Color and White people) are needed to design policies and resources that limit the harmful effects of racism in the workplace. Known benefits of the conversations include (a) acceptance of more diverse opinions, (b) developing a deeper understanding of racism, and (c) identifying new and practical solutions to racism (Cropp, 2012). Racism conversations may be uncomfortable (DiAngelo, 2018; Sue & Constantine, 2007) for several reasons. White people sometimes have a fear of appearing racist and may become hesitant to acknowledging their biases and privileges (Sue, 2013; Sue & Constantine, 2007; Todd & Abrams, 2011). White people sometimes use language that minimizes or trivializes the effects of racism on People of Color (Sue & Constantine, 2007; Todd & Abrams, 2011). Seemingly abrupt introductions of racism in conversations sometimes cause White people to become silent in discussions (DiAngelo, 2018; Sue, 2013) and or experience difficulties expressing their thoughts. White people sometimes become defensive in conversations about race and racism, especially if they feel that their worldviews and perspectives are being threatened (Sue, 2013). Feeling threatened can lead to one-sided conversations—that is, one person doing most of the talking, which usually involves repeatedly stating positions on the topic with increasing intensity (Sue, 2013). White people sometimes equate race issues with gender concerns (Sue, 2013); this may occur due to a relative (compared to People of Color) incomplete understanding of systemic racism (DiAngelo, 2018). White people may avoid the topic of race, which People of Color may misconstrue as a lack of interest (DiAngelo, 2018; Dutt, 2020; Sue, 2013). Race and racism conversations can also evoke strong emotions that may cause White people to seek to change the topic (DiAngelo, 2018; Sue, 2013). These barriers to effective dialogue can hinder the design and implementation of anti-racist policies and resources.

Strategies for promoting effective conversations and collaboration between People of Color and White people have been explored by previous research. Behavioral codes of conduct, herein defined as guidelines that govern decision-making and how members of a group behave when working together (Adams & Tourani, 2017; Kaptein & Schwartz, 2008), can help to facilitate more inclusive discussions (Tittler & Wade, 2019). Depending on
the scope and goals of the group, codes of conduct may include but are not limited to methods for preventing harassment, keeping members accountable to agreed-upon behaviors, reporting offenses, recruiting new members, dealing with tardiness/absenteeism, and solving conflicts of interest (Adams & Tourani, 2017; Kaptein & Schwartz, 2008; Miller & Donner, 2000; Sue, 2013; Tittler & Wade, 2019). Frequent reminders of the codes of conduct help participants adhere to the codes of conduct (Miller & Donner, 2000; Sue, 2013; Tittler & Wade, 2019). A skilled moderator capable of redirecting conversations with an unbiased desire to accomplish the conversation’s goals often helps the group achieve its goals (Adams & Tourani, 2017; Kaptein & Schwartz, 2008; Miller & Donner, 2000; Sue, 2013; Tittler & Wade, 2019). Training on discussing racism can help improve the conversations (Sue, 2013). White participants are generally more helpful in conversations about racism if White participants are aware of their racial biases (Tittler & Wade, 2019) and of the many forms of racism and microaggressions that jeopardize the livelihood and mental health of People of Color (Miller & Donner, 2000). Leaders can also bolster anti-racist activities by providing financial resources and engaging in racial bias training (Dutt, 2020). Recognizing the need for effective collaborations during the design of anti-racist policies and resources, URGE incorporated some of the strategies described above (i.e., behavioral codes of conduct that establish ground rules for discussion, signed agreements with leaders, reminders that groups should focus the conversations on anti-racism, and training through journal articles and oral presentations). Our study assesses whether these strategies promoted effective collaborations between participants.

3. Study Setting

3.1. Description of URGE

URGE has four primary objectives. They are to (a) deepen the geoscience community’s knowledge of the effects of racism on the participation and retention of People of Color in the discipline, (b) draw on existing literature, expert opinions, and personal experiences to develop anti-racist policies and resources, (c) share, discuss, and modify anti-racist policies and resources within a dynamic community network and on a national stage, and (d) implement and assess anti-racist policies and resources within geoscience workplaces. Participating groups (referred to as pods by the program) have created anti-racist policies and resources, but most have yet to implement the policies and resources within their workplaces. The program interchangeably refers to policies and resources as deliverables.

URGE invited geoscientists to form pods associated with an organization or academic unit; these pods serve as their discussion and anti-racist policy and resource drafting groups. Pods participated in eight 2-week educational units named racism and definitions, racism and individuals, racism and history, racism and justice, racism and accessibility, racism and inclusivity, racism and self-care, and racism and accountability (Table 1). During the units, pods used 1–3 (most times 2) URGE-provided journal articles, expert oral presentations and interviews, and their group discussions to draft a behavioral code of conduct (referred to as pod guidelines in the program) for their discussions, six anti-racist policies and resources, and a plan to manage the implementation and assessment of their policies and resources. URGE instructed pod members to read the journal articles during the first

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<tr>
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<th>Topic</th>
<th>Anti-racist policy or resource</th>
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<td>1</td>
<td>Racism and Definitions</td>
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<td>Finding Your Voice</td>
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<td>2</td>
<td>Racism and Individuals</td>
<td>Dealing with Complaints</td>
<td>Why Pronouns</td>
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<td>3</td>
<td>Racism and History</td>
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<td>4</td>
<td>Racism and Justice</td>
<td>Working with Communities of Color</td>
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<td>5</td>
<td>Racism and Accessibility</td>
<td>Admissions and Hiring Policies</td>
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<td>6</td>
<td>Racism and Inclusivity</td>
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<td>7</td>
<td>Racism and Self Care</td>
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<td>8</td>
<td>Racism and Accountability</td>
<td>Deliverables Management Plan</td>
<td>Creating Institutional Change</td>
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Note. Details for each session or educational unit (i.e., papers read, instructions for creating the deliverables, interviews, etc.) are on the URGE website: https://urgeoscience.org/curriculum.
week of each unit. The oral presentations occurred on the Monday of the second week. URGE instructed pods to dedicate 1–2 hr during the second week of each unit to pod discussions and drafting of the policies and resources. URGE provided guidance and suggestions for what to include in the anti-racist policies and resources. URGE uploaded recordings of the oral presentations on its website. The pod guidelines/codes of conduct describe norms and ground rules for pod discussions, making group decisions, and assigning roles and responsibilities; the URGE-provided instructions for designing pod guidelines/codes of conduct are included in Supporting Information S1. The six policies and resources focused on (a) tracking, displaying, and generating demographics information, (b) admissions and hiring practices, (c) safety plans for field and lab work, (d) handling complaints about racism, (e) working with communities of color, and (f) asset mapping of resources for GoC (Table 1).

Each pod submitted its policies and resources to be shared on the URGE website so that all pods could see, discuss, and learn from each other. URGE required pods to sign an agreement with their workplace leaders. Pods and their leaders agreed to have at least three meetings to discuss the implementation and assessment of the policies and resources that the pods drafted. In addition to these activities, URGE also hosted five BIPOC-only Zoom discussion groups that provided networking and safe spaces for GoC to discuss their experiences in the program and outline what they want in the anti-racist policies and resources. URGE administered a survey to all participants (an URGE-wide survey) in June 2021 and another survey to only participants who self-identified as a Person of Color (BIPOC-only survey) in November 2021. This study focuses on the comments and responses made by GoC who participated in the BIPOC-only discussion groups, URGE-wide survey, and BIPOC-only survey.

3.2. URGE Participants

URGE registered 3,920 participants, separated into 310 pods (Figure 1). Pods primarily represented institutions of higher learning, professional scientific societies, and federal agencies. URGE participants were mainly living in the United States. Participants’ career positions included administrative staff, professors, graduate students, undergraduate students, postdoctoral researchers, scientific researchers, and technical staff (Figure 1b). The participants’ races are Black (2.04%), Asian (6.76%), White (83.53%), Hispanic/Latinx (2.64%), Mixed-race (3.33%), Native American (0.26%), and Pacific Islander (0.02%); 1.26% of respondents did not disclose their race (Figure 1a). Participants primarily identified as women (63%); 22% were men and 5% were gender non-conforming.

3.3. Discussion Groups and Survey Participants

Black and Brown members of the URGE team hosted the five BIPOC-only discussion group sessions. The discussion group session dates were March, April, September, October, and November 2021. The attendance ranged from ~50 in March to 6 in November (Table 2). After introductions or a talk by an anti-racism expert, attendees separated into Zoom breakout rooms to discuss questions posed by the URGE team (Table S1 in Supporting Information S1).

One-thousand and fifty-one participants completed the URGE-wide survey: 636 women, 217 men, 49 gender non-conforming individuals, and 103...
individuals who did not disclose their gender. Of the 1,051 respondents, 25% were professors, 6.99% administrators, 15.76% scientific researchers and technical staff, 4.92% educators, and 32.49% graduate students. Eighty-three percent were White, 2.62% Black, 6.76% Asian, 2.62% Latin American, 3.33% mixed race, 0.36% Pacific Islander, and 0.65% did not answer.

Fifty-two URGE participants who self-identified as People of Color completed the BIPOC-only survey. Respondents were 69.57% women, 21.75% men, and 2.17% gender fluid/agent/or/other; 2.17% of respondents did not disclose their gender. Nine percent had some graduate school experience, 67.44% had a Ph.D., 11.63% had some doctoral studies, and 4.65% had a Master's degree. Survey respondents' roles in their pods included regular participants (68.89%), pod leaders (13.33%), and rotating pod leaders (17.78%).

4. Methods
We used the five BIPOC-only discussion groups, URGE-wide survey, and BIPOC-only survey to collect information about the experiences of GoC in URGE pods. We isolated then analyzed the responses of GoC who completed the URGE-wide survey. Participants used Jamboards (Google's virtual collaborative whiteboard) to take notes during the discussion groups. Participants only added discussion group comments that were either unopposed or agreed to by all group members. We selected what we considered to be recurring and noteworthy comments from the discussion groups, then used the BIPOC-only survey to evaluate the degree to which other GoC agree with the selected comments. We conducted this study with Institutional Review Board approval (Project 210603XX) from the University of California San Diego.

4.1. URGE-Wide Survey
The URGE-wide survey (Supporting Information S2) sought to assess what inspired people to participate in the program, what their experiences in the program were like, and how they believe the program could be improved. We designed the survey in collaboration with a team at the Science Education Resource Center (SERC). We outlined to the SERC team the purpose of the survey and the hypotheses we wanted to test. We also provided the SERC team with a list of questions that we believed would achieve the survey's goal and test our hypotheses. The SERC team then drafted new questions and rephrased or removed existing questions to limit biases and map questions onto specific hypotheses. The URGE-wide survey had 72 Likert scaled questions whose answers ranged from “strongly disagree” to “strongly agree” (see Supporting Information S2 for relevant survey questions). The survey also included five open-ended questions so that participants could provide open-ended feedback to more complex questions.

We validated the survey questions by emailing them and requesting feedback on clarity from 25 randomly selected participants. We weighed the participant selection by race so that the subgroup of people validating the survey questions statistically represented the racial demographics within the population of URGE participants. We asked participants to fill out the survey questions. Along with the survey questions, we also included four additional questions that asked participants to indicate whether they found any of the survey questions ambiguous and confusing (see Table S2 in Supporting Information S1). Participants did not report finding any of the survey questions confusing or vague. Thus, we assessed that most participants likely interpreted the survey questions accurately.

Survey administration included informing participants of their legal rights and the survey's purpose. Survey administration also included minimizing the time between the end of the programmatic activities being assessed and when participants completed the surveys. We informed participants of the survey's purpose and rights via messages at the top of the survey, Twitter, URGE-wide Zoom events, and emails. We administered the surveys 4 days after receiving comments from the sub-group of participants who helped to validate the questions. Most respondents completed the survey within ~30 days after the last URGE-wide activity. Survey respondents consented to participate in the study before answering the questions.

4.2. Discussion Groups
The Zoom breakout discussion group sessions provided data on what GoC believed worked or did not work well in the program and what barriers exist to drafting, implementing, and assessing anti-racist policies and
resources. At least one URGE team member drafted the questions for each discussion group session. The rest of the URGE team then edited the questions for clarity, concision, and alignment with the discussion group’s and or this study’s goals. Questions for the BIPOC-only discussion group session are in Table S1 in Supporting Information S1. During the session, an URGE team member first explained the purpose of the discussion questions, then randomly assigned three to four people per breakout group. October’s session included an expert who presented how to take care of oneself if and when a person experiences racism. The expert’s presentation occurred before the breakout group discussions. Each breakout group received a Jamboard page with the discussion questions and an URGE team member visited each group to answer questions relating to the discussion questions. The URGE team encouraged participants to speak freely when answering the questions and discussing other related topics. Each group had at least one volunteer note-taker who recorded responses on the group’s Jamboard. Participants had 40–60 min for discussions.

We coded the comments to identify significant themes. We first compiled all the responses, arranging them by educational units (Table 1) and questions. We read the questions and responses to get an overview of the responses. We assigned general codes (i.e., descriptions of the themes) such as “White participants” actions’ and “challenges.” We described each initial code, then reread the responses focusing on more details. This rereading for details helped us assess how each response aligns with the code descriptions. This process also led us to eliminate or merge some of the coding titles; for example, “challenges” became “challenges within pods” and “White participants” actions’ became “leadership accountability” and “expectations for White participants.” We iteratively repeated this coding process until all responses were well categorized in as few codes as possible.

4.3. BIPOC-Only Survey

The BIPOC-only survey presented respondents with 19 direct comments (some edited for minor typos, grammatical errors, and or readability) made by GoC during the discussion groups and on the URGE-wide survey (Supporting Information S3). The BIPOC-only survey asked participants whether they strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree with the comments. We selected the 19 comments for further assessment because they were made by multiple GoC and seemed more provocative than the other comments. We informed participants of the survey’s purpose via a message at the top of the survey and in the survey invitation email.

5. Results

We identified five themes within the survey and discussion group comments. The themes are (a) challenges within pods, (b) requests for more leadership accountability, (c) expectations for White participants, (d) optimism, caution, and skepticism, and (e) comments for URGE. The five themes highlight that GoC remain cautious and optimistic about anti-racism progress and want more accountability during anti-racism conversations.

5.1. Challenges Within Pods

Some GoC reported that unequal power distributions influenced pod discussions and decisions (Figure 2). Fifty-one percent of surveyed GoC felt “forced to accept pod norms” because White participants outnumbered them; 15.55% disagreed or strongly disagreed with this comment, and 33.33% neither agreed nor disagreed. Most (77.77%) GoC either agreed or strongly agreed that having all-White leadership poses “a challenge in effective discussions and tangible actions.” Notably, 36.17% of the surveyed GoC agreed or strongly agreed that White women’s leadership silenced or muted the contributions of Students of Color; 10.64% strongly disagreed.

Regarding microaggressions, 20.00% strongly agreed that microaggressions were unaddressed, and 13.33% strongly disagreed. Approximately 30.00% of surveyed GoC agreed that their pods had “difficulties staying on track and would sometimes dismiss some racialized problems as not being relevant for [their] particular situation”; 28.00% disagreed (Figure 2d). There was a division among GoC on whether inequalities (e.g., some participants being direct subordinates of others) “hindered the ability to discuss difficult issues;” 35.56% strongly agree or agree versus 28.89% disagreeing and 13.33% strongly disagreeing.

Discussion group comments also indicate that some GoC experienced challenges relating to power dynamics. One individual commented that it was exhausting to share vulnerable experiences. Participants acknowledged
that it might be difficult for White people to understand lived experiences from a perspective they will never have. One person noted that there should be recognition of intersectionalities—that is, “[W]hite female experiences are not the same as [People of Color] female experiences.” Another GoC shared that the burden to do the work in the pods most often fell on women; this should not be the case. Some GoC routinely find solace among family activities and conversations as a respite from exhaustive anti-racism work.

Figure 2. Bar charts show some of the selected responses from GoC describing their experiences during pod discussions.
5.2. Leadership Accountability

Participating GoC believe that obtaining leadership support is key to successfully implementing anti-racist policies and resources. All surveyed GoC agreed that accountability “has to come from the top [which is] hard when the people at the top are White.” In the discussion groups, one GoC expressed a lack of trust for graduate faculty to continue “anti-racism work without someone to hold them accountable” and commented that institutional progress in effecting change is too slow. Another concern raised in the discussion groups is that some participants felt little or no interest from institutional departments to “move toward a culture of inclusivity and anti-racism.” Multiple GoC attending the discussion groups also feared that it was too easy to take advantage of loopholes in the Title IX Education Amendment and Title VII of the Civil Rights Act of 1964. These GoC noticed that repeat offenders of gender and racial discrimination are often in positions of power and continue to receive awards and grant funding despite being reported for these offenses. GoC lament that anonymity is not guaranteed when reports of offenses occur, leading reporters to fear reprisals, especially if they are subordinates of the offenders. None of the above comments were challenged or refuted by a GoC who attended the discussion groups.

5.3. Expectations for White Participants

GoC want White participants to listen more, follow through on actions, and remain focused on anti-racism. One shared sentiment was that White people must “accept that things MUST change, and it includes THEM doing WORK.” In essence, White people should be willing to do the work to support anti-racist policy creation, implementation, and assessment. Talking without action is counterproductive to the work to be done. GoC encouraged White participants to listen more and not center the conversations on White people’s experiences (Figure 2). GoC shared that it helps when White individuals are aware of the various microaggressions that GoC often experience. It also helps when White Geoscientists are more open to “transferring the social climate of openly discussing racism and discrimination within the department.” “Some [W]hite participants who think they know better now are overly zealous in trying to catch [GoC] who are not Black or Indigenous on mistakes” is an additional comment shared. Another discussion group comment, although challenged by some GoC, was that some White faculty participants seemed “afraid to talk to BIPOC students, afraid of ‘cancel culture (44.22% disagreed)’, won’t join events if they know certain BIPOC students will be there, and won’t lead discussions” (Figure 2e). For the future, participating GoC suggest “having [an] anonymous form for members to fill out when something [offensive] happens!”

5.4. Optimism, Caution, and Skepticism

Participating GoC are hopeful yet skeptical about whether URGE will lead to real change (Figure 3). Forty-eight percent feared that non-URGE participants would view the recommendations from the deliverables as too much work and or have adverse reactions because they were not involved in the decision-making process (Figure 3d). While GoC participants were pleased with their participation, 48.89% and 11.11% agreed and strongly agreed, respectively, that nothing much will change since “so many issues are baked into the identity of the institution, the way funding is acquired, and where fieldwork is conducted” (Figure 3c). Similarly, 73.33% were generally cynical about real progress; 2.22% strongly disagreed that they felt cynical about real change.

5.5. Comments for URGE

GoC participants shared their appreciation for URGE and offered suggestions for improvement and the program’s long-term success. Seventy-eight percent of GoC who completed the URGE-wide survey agreed that anti-racist policies and resources should be crowd-sourced from the geoscience community and that the program provided relevant information for participation. Sixty-eight percent of GoC who completed the URGE-wide survey also agreed that the deliverables are transferable into policy for their departments and institutions. One GoC who responded to the URGE-wide survey was excited that their workplace now have a DEI (diversity, equity, and inclusion) committee and monthly town hall to discuss racism partly because of URGE. Another GoC was excited by the realization that “grad[uate] students have more power than previously realized.” Participating GoC appreciated and hoped for more BIPOC-only discussion group sessions. Two comments shared were “I really appreciated the emphasis on action, and I felt that the students and postdocs and (a small number of) faculty and
staff who got involved were very committed and enthusiastic” and “I enjoyed the program and appreciated the methodical format and delivery of the program.” “I also appreciated that it was a sustained effort over several weeks instead of the one-and-done training approach typically used to deliver DEI content at institutions across the country” was also a comment shared.

Figure 3. Bar charts show some selected responses to questions relating to optimism, caution, and skepticism that GoC feel about anti-racist change within their workplace. Data are from both BIPOC-only and URGE-wide surveys.
From the discussion groups, some additional suggestions for URGE are to:

1. Explore limiting pod size—the suggested size could vary across institutions.
2. Continue providing self-care guidance for participating GoC.
3. Provide legal advice and suggestions for implementing policies and resources.
4. Advocate for compensation and additional recognition for work done in URGE and similar programs; the work should have products and outcomes that can be included on C.V.s and considered during career promotion and hiring deliberations.
5. Use storytelling, videos, and social media to highlight the work done by pods.
6. Provide additional guidance on good practices for refocusing discussions and redirecting negative comments.
7. Provide a GoC mentoring program since many institutions are missing this.
8. Provide mediators for anti-racism conversations within the workplace.
9. Provide a description of the purpose for each anti-racist policy and resource on instructions for drafting the anti-racist policy and resource. A description of the purpose for the policies and resources should remind participants why it is essential to work on these policies and resources.

6. Discussion

We now describe our most robust interpretations, considering the study’s limitations. The sample size for the BIPOC-only survey is relatively small; there were 52 respondents from a pool of 462 participants who self-identified as a GoC, compared to the 119 GoC who responded to the URGE-wide survey. It is unclear whether the responses to the BIPOC-only survey represent the average views of participating GoC; however, the relatively smaller sample size does not diminish the significance and relevance of the answers. These are real experiences of people. A lack of opposition to specific discussion group comments may not represent a consensus in the discussion groups, despite participants reporting that they felt more open to speaking their minds in BIPOC-only discussion groups. Finding direct causal relationships between the experiences of GoC and the intervention strategies promoted by URGE (e.g., pod codes of conduct) is also challenging given the diversity of pod experiences and our desires to keep responses anonymous—that is, the comments should not be directly identifiable to a pod or individual. Some of the BIPOC-only survey statements were also compound and complex; a respondent may agree with only parts of the sentence, making it challenging to select just one response (e.g., agree, strongly agree, or disagree). Considering these limitations, our primary interpretations are that, despite the expectation that White geoscientists will make mistakes, GoC want to continue collaborating with White geoscientists to create real anti-racist change within the discipline. These collaborations need to happen in healthy ways—that is, ways that reduce the mental exhaustion and frustration that GoC sometimes experience when collaborating with White colleagues on anti-racist initiatives.

6.1. Codes of Conduct, Skilled Moderators, and Deepening Relationships

Consistent with other studies (Miller & Donner, 2000; Sue, 2013; Tittler & Wade, 2019), our findings suggest that effective anti-racist conversations begin with strong codes of conduct, which participants need to adhere to. URGE intended for the pod’s codes of conduct to help reduce or prevent tokenism, microaggression, and unfocused conversations. The hope was that, by reducing these unwanted behaviors, the emotional exhaustion that GoC sometimes feel during conversations about race would be reduced. Despite all pods having codes of conduct, some GoC experienced one or more of these unwanted behaviors and emotional exhaustion within their pods. Observations that some GoC requested anonymous ways to participate in the conversations reveal that power dynamics and a fear of retribution were also barriers to free-flowing discussions. It is tempting to argue that these behaviors occurred because the URGE-provided guidelines for developing the pod’s codes of conduct did not include suggestions for developing procedures to keep pod members accountable and when a pod member commits one of the unwanted behaviors described above. The situation is likely more complex. Without examining the details of each pod discussion, it will remain unclear whether GoC who experienced these unwanted behaviors were in pods that did not explicitly restrict the unwanted behaviors in their codes of conduct or did not keep pod members accountable. One way to have encouraged consistency amongst the pods’ codes of conduct would have been to provide an URGE-wide code of conduct that includes examples of accountability procedures and directions for handling power dynamics and harassment in pods and the program more broadly. Additionally, we speculate that having more comprehensive codes of conduct alone will not suffice as personal conviction, awareness of what
constitutes microaggressions, tokenism, and unfocussed conversations, and self-accountability are also likely essential to avoid committing any of the unwanted behaviors described above. Importantly, our interpretations and speculations are supported by other studies suggesting that groups discussing anti-racism should regularly revisit codes of conduct to remind members of their roles as active accomplices in the anti-racism work and that they should appropriately focus the conversations on anti-racism. Moderators of the anti-racism conversations substantially influence the conversations' effectiveness, and GoC want more skilled or well-trained moderators who more evenly distribute their powers. Observations that 51.00% of surveyed GoC felt “forced to accept pod norms,” 77.77% believed that white leaders pose a challenge to effective conversations, and 36.17% believed that White women leadership silenced some student voices may lead one to interpret that it is better to always have GoC lead anti-racism conversations. Doing so, however, can exhaust GoC. This is evident in our and other studies. Observations that GoC are sometimes emotionally uncomfortable educating White colleagues about racism, revealing past racial trauma, or doing more work than White colleagues are instructive. These observations are consistent with other studies (Tittler & Wade, 2019) and underscore the need to ensure that anti-racist conversations do not promote emotional harm to People of Color. Revealing or emotionally reliving trauma alongside experiencing emotional exhaustion should not be required for moving conversations forward since there are many examples of racial trauma in the literature and public domain. Alongside possibly producing harm, divulging racial trauma or playing the racism educator role can cause productivity to decrease and communication to break down (Miller & Donner, 2000). More candid conversations may be had in homogeneous groups (like in the BIPOC-only discussion groups) (Miller & Donner, 2000). Still, anti-racist progress may likewise be stalled without effective mixed-race conversations (Miller & Donner, 2000; Tittler & Wade, 2019). Examining the results further, more insights come from the observations that (a) some GoC were a part of groups that were effectively led by White leaders and (b) GoC want White geoscientists to listen more, follow through on actions, and remain focused on anti-racism; these observations suggest that GoC want White moderators to lead well, instead of shying away from leadership roles. To lead well, moderators of the anti-racism conversations need to be well-trained and kept accountable in real-time, anonymously, and asynchronously. Though not explicitly stated, GoC seem to want moderators to rotate with time. This is indicated by broad concerns over power dynamics, requests for anonymous ways to participate, and exhaustion felt when needing to play educator roles. Some unwanted behaviors may not repeat as frequently with different moderators since different moderators will steer the conversations differently. Like existing studies, our data also suggest that skilled moderators, if White, should acknowledge their racial biases and be aware that participants have unique life experiences that impact their worldviews and perceptions on race, racism, whiteness, or white privilege (DiAngelo, 2018; Sue, 2013; Tittler & Wade, 2019; Todd & Abrams, 2011). A challenge for White moderators is that they may not have the lived experience of racism and may not always (as quickly) identify when tokenism and microaggressions are occurring. Thus, additional anti-racist training and ways to keep all participants in the conversations accountable can help improve the effectiveness of anti-racist conversations.

Deepening relationships and trust between GoC, workplace leaders, and White colleagues can help to inspire confidence in anti-racism work and reduce the exhaustion that some GoC feel during collaborations on anti-racist projects. Here, GoCs’ skepticism about whether URGE will lead to substantial anti-racist change, alongside the belief that URGE provided content that adequately supports the motivations for and design of anti-racist policies and resources, is instructive. These observations suggest that GoC prefer anti-racist and diversity initiatives that go beyond training alone; anti-racism training alone does not change the lived experiences of GoC. The observations also imply that anti-racist efforts in geoscience are likely marred by past performative actions, the inaction of White colleagues and leaders, and the historical exclusion of People of Color in the discipline due to racism in academia and the world more broadly. Reports of exhaustion, tokenism, and microaggressions in some groups, alongside GoCs’ expressed feelings of increased comfortability within the BIPOC-only discussion groups, highlight that trust and familiarity (as they exist in the BIPOC-only discussion groups) are keys to reducing harm.
While White colleagues are unlikely to be able to recreate the trust and comfortability of the BIPOC-only discussion groups, White colleagues should nevertheless strive to be trusted accomplices in the work by following through on actions, recognizing that even in the face of mistakes, the work is needed and can be done well when they take advantage of the resources available (i.e., training, existing anti-racism literature, keeping themselves accountable, listening more, more evenly distributing power and resources, and centering efforts on anti-racism).

### 6.2. Relationship With Existing Theories of Collaboration

Existing theoretical frameworks for collaborations provide a context to explore our findings further. Thomson and Perry (1998) define collaboration as a process where parties with differing views constructively explore their differences and seek solutions. Their study theorized that the effectiveness of collaborations often decreases due to the autonomy or accountability dilemma, defined as the difficulty of making decisions due to a tension that emerges from differences between the interests of individuals versus the collective (Huxham, 1996; Thomson et al., 2009). One notable situation where the autonomy dilemma often occurs is when leaders feel the need to constantly check with those being led and or other leaders before making decisions (Huxham, 1996). Thomson et al. (2009) further note that people are generally conflict-adverse, often seeking to avoid conflicts instead of openly discussing complicated topics. Conflict avoidance increases when people believe that their morality or decision-making abilities are being questioned; this situation often leads people to become more defensive or avoidant as an act of self-preservation (DiAngelo, 2018; Huxham, 1996). Studies note that external factors such as the availability of resources or complex institutional policies can also negatively impact the effectiveness of collaborations (Thomson & Perry, 1998; Thomson et al., 2009). Thomson and Perry (1998) theorized that strong behavioral codes of conduct and commitments to shared causes are two of the most important tools for reducing potential negative effects that the accountability dilemma and conflict aversion have on the effectiveness of collaborations.

The above-described theoretical frameworks for collaborations, alongside our survey results, lead us to hypothesize that the success of anti-racism efforts depends on whether the autonomy dilemma and conflict aversion are more dominant in controlling participants’ behaviors versus self-examination, a shared commitment, and adherence to well-defined codes of conduct. URGE invited pods to use the same resources to create anti-racist policies and resources meant to increase belonging, accessibility, justice, equity, diversity, and inclusion for GoC in the discipline; this directive from URGE provided participants with a shared commitment both locally (in their pods/workplaces) and geoscience-wide. At the same time, URGE asked participants to discuss an issue (racism) that could lead White people (who make up most of the participants) to question their morality and decision-making skills, thus becoming conflict-averse and avoidant. People of Color sometimes experience emotional exhaustion in mixed-race conversations about racism, which also can make us conflict-averse and avoidant (Tittler & Wade, 2019). Moderators of anti-racism conversations face a heightened level of the autonomy dilemma because it is not always clear when to stop the conversation, when to pivot to different topics, whose points to follow up on, how to handle disagreements, etc., especially since these actions might lead moderators to become fearful that they are not being inclusive and just during conversations about justice and inclusion. The cultural context of the groups that participated in URGE may also influence how the collaborations went. Most participants have or are pursuing a graduate degree. Some people believe that more learned people are less likely to be racist. Results from data collected from roughly 45,000 White respondents did not conclusively support the claim that more learned people are less racist (Wodtke, 2016). Wodtke (2016) found that some intelligent White people were simply more sophisticated when practicing racism. Thus, discussing racism with groups of learned people can cause significant dissonance as they are being confronted with patterns of behaviors, practices, or systems that they have benefited from, with a lot of White educated people not believing they were active in supporting structurally racist systems; this confrontation can trigger self-preservation and defensive behaviors. Thus, the topic of racism heightens all the factors that Thomson et al. (2009) and Huxham (1996) theorize as being detrimental to effective collaborations.

The strategies that GoC identified as ones that would lead to more effective collaborations are consistent with the theoretical frameworks described above. Deepening relationships between GoC and White geoscientists target the problems of conflict aversion, avoidance, self-preservation, and defensiveness. We predict that people will likely be less conflict-averse and avoidant with others they trust, knowing that their morality and decision-making are not being questioned and are not the conversation’s subject or goal. Integrating the responses of GoC and
theoretical frameworks described above also lead us to predict that collaborations will improve when White participants are aware of how conflict aversion and avoidance can result in defensive behaviors. White participants need to also commit to changing the defensive behaviors that emerge from conflict aversion and avoidance. As identified by GoC in this study, doing so will require increased self-examination, accountability, and a commitment to focusing on anti-racism on the part of White participants. Alongside the shared local and geoscience-wide goals provided by URGE, the suggestions by GoC to (a) include more frequent reminders of the goals of the anti-racism collaboration efforts and (b) have more moderators who skillfully refocus conversations on anti-racism would likely result in the groups benefiting more from the positive effects that having shared commitments have on collaborations. As described by GoC, this will include White accomplices de-centering themselves and focusing on the anti-racism efforts. Having rotating skillful and well-trained moderators targets the autonomy dilemma. If White, moderators need to be aware of the pitfalls of the dilemma, feel confident in their decision-making because of their training, share the leadership burden, and recognize that the goal of the effort is to work together to improve the lives of People of Color, not question their morality or decision-making skills in the context of racism. Adhering to strong codes of conduct targets conflict aversion since these agreements let people know what to expect when conflicts arise are good ways to remind people of their shared goal, which takes some uncertainty out of the collaboration process.

7. Conclusion

This study identified the key elements that promote or hinder effective collaboration between participating Geoscientists of Color (GoC) and White geoscientists within the Unlearning Racism in Geoscience (URGE) program. Our data are from five BIPOC-only discussion groups, one BIPOC-only survey, and one program-wide survey. Our analyses agree with previous studies demonstrating that prolonged conversations about race should occur after creating comprehensive behavioral codes of conduct that participants adhere to. These codes of conduct will increase the chance of constructive discussions and more equitable decision-making. Periodic reviews of codes of conduct should occur to remind participants of the conversation’s goals. Just as necessary is having a skilled or well-trained facilitator/moderator who upholds equitable standards and treatment of all group members. These skilled or well-trained facilitators/moderators should be ready to deftly refocus the topic of discussions to anti-racism when needed. GoC sometimes prefer not to be the main people educating their White colleagues about racism. When White people recognize their biases, it is possible to have open conversations, which may lead to self-growth. Consequently, accountability must be an impartial expectation for all involved in the anti-racism work. There needs to be a systematic change (i.e., improvements) in handling complaints against people who practice racism; these changes may help reduce the levels of mistrust between GoC and their White colleagues. A substantial lesson from this work is that future programs like URGE should emphasize (i.e., spend a substantial amount of time on) training participants how to discuss racism and how to create and adhere to robust behavioral codes of conduct.

Data Availability Statement

All data from this work are in the main body of paper or supporting information and are available for download at https://doi.org/10.5281/zenodo.7314445.

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