

I Just Don't Quite Fit In: How People of Colour Participate in Online and Offline Climate Activism

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Participation in climate activism is often facilitated by joining groups on digital platforms, for online and in-person participation in the movement. However, despite the easy access to communities digitally, people of colour (POC) are underrepresented in the UK in climate activism. Little research provides insight into why the voices of POC are underrepresented and how to level the playing field for participation in climate activism, that is just as important to POC. To investigate this, we conducted a qualitative semi-structured interview study with POC who are active in the climate movement (N=12). We identified five main themes: (i) gaining membership to the climate activism community, (ii) experiencing challenges in belonging with respect to identity characteristics, (iii) participating in protest through relevant issues and values, (iv) feeling fear due to differences and marginalisation, and (v) developing strategies for control and utilising anonymity. Our findings show how people's racial and other minoritised identity is crucial in influencing their sense of belonging and community and in turn their participation in climate activism and perhaps other opinion-based movements. For movements to be more inclusive, we urge the HCI and CSCW community to rethink designs influenced by structures of power and centre diverse values and issues instead of universal ones to amplify the voices of minoritised identities. Suggestions on how technologies could achieve this are discussed.

CCS Concepts: • **Human-centered computing** → **Collaborative and social computing**.

Additional Key Words and Phrases: digital activism, climate change, participation, advocacy, environmentalism, race, racial identity

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1 INTRODUCTION

Climate change has become one of the most, if not the most, pressing issue of our times. However, new reports and previous literature have continued discussions about how people of colour (POC) are underrepresented in the climate movement [39, 49, 54, 122]. The lack of representation could result in biases in policymaking and public engagement, ignoring the social inequality for underrepresented populations caused by environmental disasters and climate change. Public health studies have shown that POC in developed countries are disproportionately affected by air pollution [13, 54] because they are more likely to live near sources of pollution that expose them to higher levels of toxic air [7, 12, 76, 85, 92], causing higher rates of health conditions, such as asthma, heart attacks, and cancer [33]. Therefore, more research is needed to understand how to facilitate POC's participation in the climate movement.

Climate activism is one of the main ways for pro-climate advocates to voice their opinions, raise awareness in society, and push for social, political, and environmental changes. It has gone through drastic changes in recent years,

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53 especially due to the introduction of digital platforms such as social media for activism. Digital platforms could lower
54 the threshold for people to access relevant information about social movements [51, 62] including the climate movement.
55 The increasingly popular in-person protests and the acts of non-violent civil disobedience that are designed to evoke
56 emotional reactions from the general public and the government are shown widely advertised and spread digitally with
57 the hope of raising awareness and mobilising more people to join the movement in the UK [50]. However, the continued
58 reporting about the underrepresentation of POC in in-person actions raises concerns in the public and research as
59 to whether the methods are inclusive to POC [49] and whether digital platforms are facilitating or hindering POC's
60 participation. While previous work focused on understanding POC's participation in identity-related movements such
61 as Black Lives Matter (BLM), much less work has investigated the factors affecting POC's participation in opinion-based
62 movements such as the climate movement.
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65 The present work, therefore, aims to understand the factors that affect POC's online and offline participation in climate
66 activism in order to better support their participation. In particular, we focused on understanding how people's sense of
67 identity influences their sense of belonging, membership in climate communities, and participation. We conducted
68 an interview study with twelve POC active in climate activism which focused on exploring POC's perspectives of
69 participating in the climate movement related to their personal feelings and experiences.
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72 Our findings first demonstrated how participants gained membership through different ways and faced different
73 levels of challenges and achieved different levels of belongingness and sense of community, affected by different
74 identity-related factors when doing so. Second, participants revealed the complexity of feeling represented or being
75 representative in their accounts due to the interplay of multiple dimensions such as culture and religion, and fluid socially
76 constructed racial categories. Third, we found participants struggle to identify with existing climate communities due
77 to a mismatch of values and issues, and mechanisms of protests that are relevant or indeed more achievable for POC.
78 For instance, participants highlighted that issues connected with their ethnic roots and cultural backgrounds such
79 as important local political and social issues that are not centred on recent protests, and the roots or mechanisms of
80 protests were more confrontational due to more militant actions being adopted. Fourth, we discussed participants'
81 fear such as being arrested or long-term repercussions to future careers, possibly due to racial marginalisation and
82 differences in various contexts. Finally, we explored how participants coped with identity-threatening situations by
83 devising strategies for more control and utilising anonymity of digital platforms and how they reclaimed control and
84 agency on digital platforms that they otherwise did not feel in offline situations.
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88 The contribution of our work is threefold. Empirically, we provided evidence for challenges that POC could face when
89 participating in climate activism. Our findings demonstrated participants' sense of identity and belongingness to the
90 climate communities could vary depending on how well connected and integrated they already are with that community,
91 how they have experienced and identified with their racial identity, and how represented they feel their causes, culture,
92 and values are with the group. Theoretically, our work gave insight into a more comprehensive understanding related
93 to social identity i.e., the differences between "race" and "racial identity" where the former is static and the latter is
94 fluid, and the role of self-relevant racial identity in a science-focused and opinion-based movement. For design, our
95 work challenges designers to rethink how to maximise the design of digital spaces to be more inclusive of POC. Our
96 findings suggested that anonymity is largely beneficial to POC in climate engagement psychologically as it helps POC
97 retain control and agency over their online environment so designers could further explore it as a strong tool to centre
98 and amplify POC's voices. Our work ultimately aims to work towards making platforms and technologies more diverse,
99 inclusive, and safer for POC's participation in climate activism.
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2 RELATED WORK

2.1 Social Identity and Collective Climate Actions

Climate change is traditionally viewed as inherently science-based i.e., attributed to the change in our environments such as the emission of greenhouse gases, the detrimental effects of deforestation, and the depletion of the ozone layer [93, 103]. Thus, people’s intention to participate in climate actions is also believed to be strongly associated with their opinion on the science of climate change i.e., whether they believe that climate change is a serious environmental issue e.g., [113]. A widely adopted theory to explain membership to climate and environmental groups is opinion-based identification where a group is formed from opinion alignment, shared opinions, beliefs, and values towards an issue [9, 75, 107, 115]. Based on this, individuals with a common stance on a certain topic will find a sense of membership with each other and hence are more likely to engage in collective actions.

But despite the exponential increase of publications and scientific evidence about the negative impact of climate change, previous studies showed that climate actions have not kept up in pace [60]. This is perhaps because a significant component of climate action is not a purely opinion-based issue but a social science one involving complex and disparate types of collective actions involving group memberships. We define collective actions here as actions undertaken collectively by individuals or groups to improve the status, power, or influence or achieve group goal(s) such as social change [88, 106, 111, 112, 114, 119]. One of the theories that social psychologists use to explain people’s reasoning behind participating in collective action is social identity theory where social identification is central to promoting collective actions e.g., [107, 114]. The general idea is that by identifying with the social identity of a group, an individual might feel the urge to partake in the group’s goal hence participating in collective actions.

Previous work focused on applying this theory to what it refers to as “*fixed group memberships*” such as those based around structural disadvantages e.g., being a person of colour or a woman, and incidental disadvantage e.g., resident at a neighbourhood next to a polluter [26, 114]. The reasoning is that these groups might feel like there is little they could change about their disadvantaged status, for example being a person of colour, but people can engage in the civil rights movement to initiate change to the status quo [24]. This argument suggests that, by belonging to a certain social group with similar identity attributes, people are inherently more likely to identify with them, gain membership, and participate in causes benefiting the group. This is often applied to identity-related social movements such as the Me Too and Black Lives Matter movements [102, 118] but rarely to non-identity-related movements such as the climate movement.

Despite the unpopular approach, past research has attempted to study fixed group membership such as national or regional identification e.g., [69, 113], party affiliation, race, gender and so on e.g., [73, 74]. But while they identified relevant dimensions quantitatively, they did not explain racial identity’s connection with climate actions. For example, both studies by McCright and Dunlap [73, 74] examined the influence of different demographics including race on people’s beliefs and attitudes towards climate change and actions. However, they essentialised race into two levels, “White” and “non-White” – their 2011 study showed that White participants’ beliefs were more likely to align with climate science, whereas “non-White” participants were found more concerned with the consequences of climate change; in their 2008 study, they found no significant difference between White and non-White participants in their agreements to the goals of environmental movements. While both studies presented interesting differences between the two racial groups, they did not offer an explanation for these results, and the category of “non-White” oversimplified the populations’ diversity and their experiences e.g., [17, 78]. Another study by van Zomeren et al. [113] also essentialised American identification to a measurement of two items, Americans and non-Americans, without making nuanced

157 distinctions such as party affiliations, race, gender, and so on, and was unsuccessful in finding a significant difference
158 in collective climate action intentions between them. Hence, due to the simplification of fixed yet complex social
159 dimensions and the lack of in-depth qualitative understanding of why identity is relevant in the context of the climate
160 movement, the differences between racial groups are not well-understood. However, unlike previous work where group
161 membership was conveyed as *fixed* due to one's inherent identity attributes, Fritsche and colleagues [38] proposed a
162 more updated model for collective climate actions i.e., the Social Identity Model of Pro-Environmental Action, which
163 suggested that the identification of "*any self-relevant ingroups*" including those based on identification to a place, race,
164 gender or social class could also influence one's intention and participation in collective climate actions.
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167 In contrast with identity-related social movements such as e.g., the civil rights, Me Too, and BLM movements where
168 one might easily find their identity attributes salient and thus establish group membership [44, 97, 102, 118], the relevance
169 of identity attributes in non-identity-related movements might be more subtle and less straight-forward and could vary
170 from person to person. However, it does not mean that marginalisation based on one's identity attributes does not exist
171 in these contexts. In fact, a qualitative study by Gibson-Wood and Wakefield [41] showed that marginalised low-income
172 Hispanic communities in Canada had difficulty engaging in climate actions because they experienced discrepancies
173 with mainstream activism in culture (i.e., being an immigrant), socio-economic status (i.e., getting exploited and abused
174 as working class), and definition of environmentalism (i.e., disagreeing with the White definitions of environmentalism).
175 They experienced further marginalisation by being blamed for their lack of action. We argue that due to the relevance
176 of racial identification being more subtle and "invisible" in the opinion-based climate movement, it is important to
177 focus on individual perspectives of how people feel their racial identity is relevant to their experiences and possible
178 marginalisation.
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182 To enhance our understanding of identity-related influences in collective actions, our qualitative study focused on
183 exploring how POC find their racial identity salient and subsequently how that perception affects their participation
184 in collective climate actions rather than how their *fixed* racial identity affected them in general. According to one of
185 the Critical Race Theory (CRT) principles, race (and racism) is not represented and characterised by fixed biological
186 dimensions but by socially constructed categories and behaviours that are human-made [82]. Research showed that
187 the concept of race salience and racial stereotyping only starts emerging at a young age and is strengthened with the
188 increase of age [84]. Thus, we outline in our work that *race is a social construct* where race is realised as a self-relevant
189 identity and not an essentialist quality. Compared to identity-related movements where the relevance of identity forms
190 the foundation of the movements [44, 97, 102, 118], the constructionist approach is especially important in a non-identity
191 related movement where identity is not immediately relevant. This way we are not focusing on one absolute truth in
192 how race affects participation but rather a variety of stories, experiences, and perspectives on how POC may or may not
193 find their racial identity relevant and why and why not. The aim of our work is to help bring out comprehensive stories
194 of POC's lived experiences and feelings on how they personally experience marginalisation and what it means to them
195 when they participate in climate activism instead of trying to find a universal truth for the different racial groups.
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200 2.2 Digital Membership, Belonging, and Further Deterrents

201 2.2.1 *Online Memberships and Ingroup Favouritism.* Over the years, different social identity theories have been in-
202 troduced to explain group memberships and dynamics online. Specifically, Seering et al. postulated how intergroup
203 boundaries could affect behaviours of people with different identities [101]. They suggested that online group com-
204 position could be explained by the phenomenon of ingroup favouritism i.e., that people prefer and are more likely to
205 form groups with others who have similar identity attributes as themselves or with like-minded people (also [8, 67]).
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Therefore, when intergroup boundaries are developed based on ingroup favouritism, online groups might be more likely to attract similar members. When considering the social identities of climate activist of colour, their identity or cultural differences could make it difficult for them to join a group.

In addition, while online membership has a low entry barrier where people can quickly find a group to join and become a member, they can also leave very easily. This creates a dynamic where people can simply leave the group when they perceive it negatively, or when the group thinks negatively of the member (considering them as an outgroup), they could make them leave [106]. This could lead to group polarisation especially when people are deindividuated i.e., anonymised. Groups with similar members of the same opinions could drive away people who are different but also could reinforce group consensus and identification within similar members, leading to more polarised views [56, 67], including racist or uninclusive beliefs sometimes. When a new member joins a group, they are naturally inclined to think positively about the group to enhance positive self-perception of one's identity, motivations and identification with the group [101, 106]. Even if POC view some online groups negatively as they feel (consciously or unconsciously) that their salient identity does not fit in, they may try to make positive comparisons with an outgroup to gain a better sense of community [101, 106]. For example, many may try to ignore signs of imbalances of power such as racism, sexism, or classism as they try to seek positive membership by justifying an intergroup boundary. The idea of ignoring imbalances of power could be compared with the concept of colourblindness, the belief that everyone is given an equal opportunity under equal protection of the law that is non-discriminatory regardless of their race and other marginalised identity [82]. Previous work pointed out that POC who try to increase their chances of survival under dominant (White) culture [27] or find themselves powerless in changing the status quo [83] could normalise White norms, beliefs, or behaviours as a coping mechanism. The process of normalisation engages the thought of POC generalising their underrepresentation in Western contexts to other contexts such as gaming [83] and in this case, climate activism.

2.2.2 Identity-based Deterrents: Online Hostility and Surveillance. In situations where POC are considered an outgroup, they might experience online hostility and surveillance, which could further deter them from the online climate communities or from joining any collective actions. Even though online activism gives an initial impression that it is low risk and low cost, online activism is not risk-free, especially for marginalised populations and people who engage in social movements. One of the risks is online hate speech and “trolling” where people can take advantage of loosely moderated social media platforms to make attacks towards certain groups of individuals e.g., racist memes used by the extreme right-wing to incite sexism and racism [65]. These toxic cultures are enabled by the rise of online deindividuated forums where users are anonymous [19, 70]; other social media platforms like YouTube and Twitter also enable racist influencers and groups and allow collective and coordinated harassment against POC [52, 80].

Surveillance is also a common deterrent to POC's participation due to the long history of targeting and monitoring POC and environmental advocates. POC have been subjected to government surveillance in the US such as the infiltration of Black Power Movements in the 1960s and the Black Panther Party [18, 20, 53] and in other parts of the world; in the Birmingham, UK, for example, the government attempted to install a couple of hundred cameras under an anti-terrorism program in a predominantly Muslim neighbourhood in 2010 but failed ultimately due to public scrutiny [68]. In the modern activist era, there are increased concerns about governments and corporations using social media platforms to surveil, target, and repress activists and their efforts as they violate the privacy and security of citizens [110, 116, 121]. For instance, evidence showed that law enforcement in the US monitors specific BLM protestors and their activities in social media [72]. Another way for reproducing systems of oppression and power is predictive policing, where police data that is coloured by implicit and explicit biases of POC are used to predict crime patterns of specific individuals or

261 populations [32]. The implication of predictive policing in a contemporary setting is worrying for POC as this type of
262 Big Data is now widely used for algorithmic surveillance, reproducing systems of oppression and population racism
263 and furthering marginalisation of individuals and populations of colour [32, 96].
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265 POC's salient identity could influence their participation in collective actions both online and in-person due to
266 the fear of being targeted. Many governments including the UK, the US, and Canada have been monitoring groups
267 such as climate activists and animal rights groups over the years, cracking down using direct (e.g., legislation) or
268 indirect (through private agents) means [116]; even big oil corporations closely monitor specific individuals and their
269 activities through social media [110]. Thus, the issue of participation for activists of colour in such movements even on
270 online platforms is complicated and difficult, because they may feel like they are targeted not only because they are
271 environmental activists but also because of the colour of their skin. The quantitative findings from Boyd et al. found
272 that BLM protesters are concerned about the police arresting them, knowing their identifiable information, protest
273 plans, and location, and getting access to their phones [10].
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276 **2.3 CSCW Contribution: Rethinking Safe Spaces for POC in Climate Activism**

277 As the threats that technologies enable against marginalised POC have become unavoidable nowadays, it is timely and
278 important to rethink what influences the design of safe spaces online and offline for them. Previous CSCW literature
279 provides insights into the relationship between technology, power structures and designs, and access to spaces. In
280 particular, Dourish's early exploration of technology and spatiality highlighted how the designs of technologies could
281 limit the mobility of certain social groups because of lower positions of power [25]. He referenced Massey's work in
282 power geometries [71] and suggested the need to rethink the role of technology in staging the spatial experiences
283 influenced by power structures for people of lower power status e.g., designs of technologies may limit marginalised
284 people's access to spaces and infrastructures. Indeed, when Scheuerman et al. employed this framing in their qualitative
285 interview research, it was evident that technologies influenced trans individuals' mobility and safe spaces [97]. They
286 found that people abuse anonymous platforms like 4chan to appropriate transphobic memes e.g., threaten to literally
287 run trans people out of their own housing. This example demonstrated how unmoderated online spaces could be easily
288 weaponised against certain marginalised groups of people to immobilise and literally force them out of their own safe
289 spaces. Therefore, drawing on this idea, we suggest that hostile anonymous online platforms and heavy surveillance
290 might be a factor limiting POC's access to physical spaces.
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296 Also, the similarity between Scheuerman et al.'s example and marginalised populations who experience environ-
297 mental racism is uncanny. Increased environmental health risk for low-income populations and POC because of
298 disproportionately high exposure to environmental hazards and toxins is not a coincidence [15, 16]. It was designed
299 that environmentally hazardous facilities be located near the poor and communities of colour instead of rich more
300 well-off neighbourhoods. The poor and POC are further restricted in their mobility to access safe spaces free of pollution
301 and contamination due to the high cost of doing so, exacerbating health inequality. Therefore, there are important
302 socio-political implications to assisting poor and marginalised communities to voice their opinions in climate activism
303 to trigger change.
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306 The current work also argues that not only could people's physical spatial experiences be conditioned by uneven
307 power structures but also people's experiences in online spaces. The concept of online spaces being constructed to
308 serve as safe spaces is not new [55]. Research into identity-related movements, such as BLM, showed that POC used
309 social media to shape, redefine, and take control of the movements [14, 117]. Another research showed that trustful
310 online environments could be built through dedicated individual and collective supportive efforts in closed online
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313 #MeToo communities in Swedish [44]. However, the same research found that there was a decrease in trust as the
314 movement grew, the groups became bigger, and public exposure increased, especially in tightly-knit communities.
315 Therefore, in expanding, the space may have become inaccessible to some vulnerable individuals due to the inability to
316 control and maintain the confidentiality and safety of the platform. Online spaces and communities could be similarly
317 inaccessible to POC who would like to participate in the climate movement. Despite the desire to advocate climate
318 actions, marginalised individuals might perceive the ever-growing online communities and groups such as Extinction
319 Rebellion (XR) as inaccessible and less trustworthy due to safety and confidentiality being compromised.

322 Despite drawing valuable insights from previous CSCW literature, it is important to highlight that the design of safe
323 spaces for POC in the climate movement should differ from that of other identity-based movements. This is because
324 while marginalised and unrepresented identities are the centre of many movements such as BLM and Me Too, ultimately
325 the climate movement is about working towards building a better world for all people, living things, and the planet
326 and not just a certain group of people. Therefore, while our work explores identity-based issues, we are interested in
327 examining how spaces such as large online communities could be more inclusive for POC in favour of mass mobilisation.
328 We investigate this by exploring the tension between how POC feel included based on identity and climate ideas and to
329 inform our understanding of how to balance between the designs for tightly knit and mainstream communities.

332 In the present study, we largely explore how we could rethink the design of safe social spaces for POC's engagement
333 in climate activism with deeper engagement with theories that centre lived experiences of marginalised individuals.
334 First, we engage deeper with CRT when designing social spaces [82]. According to the principles of CRT, it is important
335 to acknowledge the concept of race (and racism) is prevalent and systemic and not rare in everyday life, societies, and
336 technologies [43, 108]. Therefore, a liberal colourblind approach that shies away from engaging race in discussions
337 and designs could hinder anti-racist progress by not acknowledging their ever-pervasive system of oppression [1]. For
338 example, predictive policing was advertised as an 'objective' technology that does not 'see' race when algorithms were
339 built using biased data collected in the past tainted by population racism in the first place [96]. Better engagement
340 with intersectionality (i.e., the concept where a unique set of overlapping identities such as race and gender could
341 create unique contexts, discrimination and/or disadvantages) also allows us to better understand intersecting systems
342 of power and how we can design for unique contexts in a more nuanced and pluralistic manner [89, 90, 98, 109]. Also,
343 it is also useful in engaging in Value-Sensitive Design which aims to centre human values such as physical and mental
344 well-being, identity, privacy, autonomy, and environmental sustainability when rethinking the design of social spaces for
345 climate activists of colour [36]. We suggest that, by deeper engagement with these theories, we could better understand
346 marginalised individuals and groups' needs in their participation in climate activism.

352 3 METHODS

354 To explore the factors affecting POC's decisions to participate in collective climate actions digitally and physically,
355 we wanted to focus on qualitatively exploring individual perceptions, feelings, and experiences related to their racial
356 identity and the climate movement. To gain a deeper insight into POC's experiences, we conducted an exploratory
357 qualitative semi-structured interview study incorporating elicitation techniques [48] and modified co-creation cards
358 [37]. The study was approved by the Research Ethics Committee at [institute name]. Recruiting this population was
359 challenging. We reached out to available sources including our institute's internal networks and external organisations
360 that we found through searches on the internet. Despite best efforts, most participants were opportunistic and snowball
361 samples recruited through [institute name] network and Subject Pool, others were through Twitter and mailing lists.

365 Our interview guide was constructed based on investigated factors in previously proposed and well-known models
366 for predicting collective actions for environmental movements such as the Social Identity Model of Collective Action
367 [114] and the Social Identity Model of Pro-Environmental Action [38]. The scope of our interest focused on identity
368 and group-related motivators, therefore, the interview guide was developed around the factors of social identification
369 and self and collective efficacy. However, despite being initially interested in efficacy, the related dataset and analysis
370 were not included in this study as the testimonies generated were not relevant to our current research question around
371 racial or social identification.
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374 Two pilot iterations were conducted: Pilot 1 was conducted with two researchers of colour to refine interview
375 questions; Pilot 2 was conducted with six POC from the university subject pool to test the research approach. While
376 conducting the initial few interviews in Pilot 2, we encountered several difficulties. First, we were unable to get
377 participants to provide comprehensive responses and insights into their experiences and how they relate to their racial
378 and other/or social identities. This is perhaps because many participants talked about longer-term engagements such as
379 sustainability-related jobs at work or committees and community-based engagements, which could have been harder
380 for participants to remember their specific experiences and feelings about them, so they only gave generic responses.
381 Therefore, we iterated and improved on the protocol used. After iteration, for the second half of Pilot 2 and the final
382 study, we incorporated elicitation techniques using visual materials participants had prepared to help them better
383 access their memories and feelings when they were engaging in climate activism [48]. We kept our interview guide
384 flexible for events ranging from short-term or one-off engagements such as a protest to long-term engagements e.g.,
385 if it was an image of a protest, we asked them to recount who they were with and what they did, observed, and felt
386 in the beginning, during, or the end of the protest, whereas if it was a regular sustainability committee meeting or
387 a less memorable talk, we asked them to describe what they did and who was involved. Finally, we also refined our
388 inclusion criteria. The only initial additional inclusion criterion was that participants were passionate about climate
389 change. But despite being passionate about climate change, most pilot study participants carried out few group or
390 individual climate actions, for example, one participant only read digital newspaper articles about climate change
391 and the climate movement, and they were unable to provide substantial insight into their feelings about participation
392 in climate activism or climate communities in the UK. To ensure recruited participants were committed individuals
393 advocating climate change and could provide insights into their feelings about climate communities, we further refined
394 the inclusion criteria i.e., participants were required to have at least considered attending one or more in-person events
395 related to the climate movement even if they had not gone to any in-person climate events.
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403 3.1 Final Study

404 Final inclusion criteria included being a UK resident, 18 years old or above, self-identifying as one or more minority
405 ethnic groups, having attended or considered going to one or more in-person events related to the climate movement,
406 and self-identifying as passionate about climate change. Twelve participants were recruited for the final interviews.
407 After participants had given informed consent for participation in the study, they were sent instructions for the interview
408 study and a link to the demographics questionnaire on Qualtrics. In the demographics questionnaire, we asked about
409 their age group, gender, nationality, race, occupation and educational background, and subjective rating of their social
410 status. We referenced MacArthur Scale of Subjective Social Status developed by Adler et al. [3] to measure participants'
411 subjective ratings of their social status. In the instructions, participants were asked to prepare one to three visual
412 materials (e.g., a photo, poster, or media article) of a climate change event they had participated in or considered.
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417 To minimise the risk of being identified due to how sensitive and personal some information they provided to us was
418 in the interviews, we present a summary of all participants' demographics instead of separately for each participant.
419 Therefore, the demographics of the twelve participants are presented in Table 1.
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421 Due to [University] COVID-19 research policy at the end of 2021, the interviews were conducted online and recorded
422 through Microsoft Teams. They lasted for 45 minutes to an hour. In the interviews, we first asked participants their
423 perspectives of what they would consider as climate activism or actions e.g., "In your opinion, how would you define
424 climate activism?" and "What activities would you consider as climate activism?". Further, they were asked whether
425 they have engaged or are engaging in any online or in-person climate actions, whether they think they are engaging in
426 climate activism or not, and to describe these. They were then asked about their feelings and opinions on individual
427 actions and group actions and the sense of impact from their actions i.e., self-efficacy and collective efficacy (which will
428 not be the focus of the current analysis).
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430 In the next stage of the interview, we explored the visual materials that participants prepared before the interview.
431 We asked participants to prepare one to three visual materials that would be related to an online or in-person event
432 that they have gone to or have thought about going to. We then prompted questions using elicitation techniques to
433 aid the recall of their experiences of participation(s). For example, we asked how they first noticed the event, how
434 they got involved, where they were at the event, and what they remembered. If they did not attend, we asked why
435 they did not get involved. We then explored participants' sense of belonging and community. On this, they were asked
436 to reflect on whether they felt included in climate communities and events. First, they were asked if they felt like
437 part of any communities/groups and how that impacted their motivation in engaging in that activity/event. In this
438 part, we were interested in specifically non-social-identity-related groups. Therefore, we prompted them with the
439 first set of modified co-creation cards which were post-it notes on a Miro board. Co-creation cards were originally
440 developed to help designers and non-designers to explore different design methods and assist with design processes in
441 'Collaboration', 'Collect', 'Comprehend', 'Conceptualise', 'Create', and 'Communicate'. Each card contains a method
442 prompt and a description of how to approach it. Its purpose is to help people who are working together to establish
443 a common language and experiment and learn ideas together [37]. In the present research, co-creation cards were
444 considered helpful for participants to reflect on and choose aspects of their identity that they wanted to discuss. They
445 were useful to gain deeper insight into participants' feelings and perceptions and eased discussions around potentially
446 sensitive identity-related aspects. We modified the original format of the cards for this purpose i.e., 1) we replaced
447 method prompts with prompts of different group identifications, 2) rather than one prompt at a time, participants
448 were presented with multiple prompts at a time so they could pick the most relevant one(s) to them for discussion;
449 and 3) there was also no description of the prompts as the prompts were considered self-explanatory - however, the
450 researcher explained the overall purpose of using the cards. We found that used this way, the modified cards were useful
451 in minimising the impact of the questioner's identity on participants' willingness to share as it helped the researcher to
452 ask questions without drawing too much attention to their identity differences. The top row of Figure 1 shows the
453 non-social-identity-related group prompts which were "Specific organisation", "UK-based climate community", "Global
454 climate community", "Friends and Family", "Local community e.g., their council" and "Other". Further, we asked them
455 whether they had considered how aspects of their identity compared to other members impacted their motivation when
456 joining the event. We showed the second set of prompts to aid their responses to the question. The bottom row of
457 Figure 1 showed the prompts which included "Socio-economic Background", "Class", "Minority", "Race", "Age", "Religion",
458 "Gender", "Education background" and "Other".
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In the last part of the interview, we asked participants about their online actions and factors that have affected their digital participation by presenting the two sets of prompts to them again. We then concluded the interview by asking what purpose they felt in-person and online platforms served and how they facilitated climate activism.

Table 1. Participants' Demographics Information

Demographics	No. of participants	
Age Group	18-24	2
	25-34	7
	35-44	2
	45-54	1
Race	Bangladeshi	1
	Black - Caribbean, African, Black British	2
	Indian	4
	Pakistani	1
	South Asian	1
	Mixed Race - Black and White	1
	Mixed Race - Chinese and White	1
	Mixed Race - Indian and White	1
Nationality	British	6
	Indian	2
	Indian and British	1
	Chinese and British	1
	Italian and British	1
	Pakistani	1
Educational Background	Some university	1
	Bachelor's degree (e.g., BA, BBA BFA, BS)	1
	Graduate (e.g., MA, MBA, MFA, MSc, MSW) or professional degree (e.g., MD, DDC, DDS, JD, PharmD)	7
	Doctorate degree (e.g., EdD, PhD)	3
Subjective Rating of Social Status	5	1
	6	2
	7	6
	8	1
	9	2



Fig. 1. Top row: Non-social-identity-related group prompts; Bottom row: Social-identity-related group prompts

3.2 Data Analysis

To analyse the results, we applied a combination of “bottom-up”/inductive and “top-down”/deductive thematic analyses [11]. After open-coding our data bottom-up, we identified codes and grouped them into themes using affinity diagrams. We then did a top-down analysis where we referenced themes in previous work about POC [41, 89] to reinterpret and reorganise our codes and conceptualise our themes. Specifically, Gibson-Wood and Wakefield’s work understanding how Canada’s low-income Hispanic population engaged in environmental action informed our understanding of the role of intersectionality and perceived Whiteness in influencing people’s collective actions [41], and Rankin, Thomas, and Erete’s work in Computer Science education guided our understanding into the interplay of power, privileges, and identity in our analysis [89]. Visual materials were prompts and, therefore, not analysed separately but alongside the interviews. The analysis was first carried out by the first author. Subsequently, all the codes and themes were collectively discussed and regrouped by all authors. This process was repeated for both the top-down and the bottom-up analysis.

Our analysis primarily focused on how participants felt about participating in climate activism in the context of their racial identities, how these identities shape their involvement as well as the barriers to participation in the climate movement for POC. A large part of this exploration surfaced in how their identities, especially around race and ethnicity, influenced participation. To explore whether other dimensions of identity such as socio-economic status and educational background also affected their decisions, we also used the intracategorical approach in intersectional HCI to guide our analysis as suggested by Schlesinger et al. [98] where we first identified POC as our one single set of identity(ies) and then we analysed other dimensions of identities such as subjective rating of social status and educational background within this group. Noted, for the purpose of this study, we define *climate activism* as any form of collective action that seeks to promote, advocate, and/or raise awareness about political, social, and/or environmental changes for the greater good of the Earth’s climate.

4 RESULTS

We conceptualised five themes, (i) gaining membership to the climate activism community, (ii) experiencing challenges in belonging with respect to identity characteristics, (iii) participating in protest through relevant issues and values, (iv) feeling fear due to differences and marginalisation, and (v) developing strategies for control and utilising anonymity. The themes identified are described below using P# to denote interviewed participants. Visual images are not linked to any identifiers to protect participants’ identities.

4.1 Gaining membership to the climate activism community

Many participants gained membership to climate and sustainability communities through university and work networks or friends, leveraging existing networks to join such groups, sometimes in combination with online platforms. For example, P3 and P6 took the opportunity to participate in the space of sustainability through work events, and P8, P7, and P12 accessed opportunities via existing university networks working closely with climate-related issues. P7 learnt about events and the most updated climate research from the connections she made during her undergraduate education. She said, “[...] during my undergrad degree, one of the buildings that I used to have lectures with was called the [Research Institute on Climate Science], so [researchers in there are] people I know [...] and they hosted this festival which was on the topic of climate justice[...].” Figure 2 also shows a screenshot of a message shared by a participant received on their university-associated WhatsApp group, which prompted their subsequent engagement. Thus, participants leveraged

pre-existing networks and communities (as students and colleagues, regardless of identity attributes). Participants within the higher education networks might have potentially created intergroup boundaries between themselves and "outsiders".

With their pre-existing networks, some participants talked about how the access to resources about the current opinions and latest research in climate science within their workplaces and universities such as podcasts and talks, events, research, and connections motivated them to stay passionate about climate change and positively affected their in-person climate action intention. P2 highlighted despite being able to access the resources created by universities herself, there were limitations as to how accessible they were to outside audiences. She stated, "[The podcasts are] open to the public, but I suppose because [...] it's mainly advertised within [University name]. I'm ex-[University name][...] I know where to go to the website to find it. The information is publicly accessible, but it's just the extent to which it's being advertised."

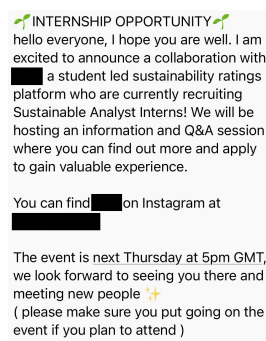


Fig. 2. WhatsApp group message for opportunity to work in sustainability

these platforms.

In some cases, participants mentioned that they wanted to participate in climate communities to develop connections and a sense of community around a cause they were passionate about - however, they often felt that this was not the case and the sense of community was only superficial. For example, P2 learnt about beach clean-up events on subreddits with members around the UK. As subreddits generally focus on a particular topic, she felt like she could develop a sense of community with "like-minded people" but to the extent of "pen pals" as everyone was only there for "climate change business". She met the subredditors in person at the beach clean-up events, where she said, "I feel I belong because we talk about a certain topic, but outside the topic, no, I don't.". Thus, despite P2 felt a connection with others based on opinion-based membership, P2 felt that the sense of community lacked a sense of belonging and interactions were mainly transactional. P11 joined multiple Facebook and Telegram groups, but only joined a protest organised by an XR Telegram group which seemed "organised" and in "young person's language" and their platform was well-moderated. Thus, similarities with the community being joined and how it was run were important to participants.

For participants who did not have existing networks to leverage, online platforms such as Facebook, Instagram, and Reddit or other communication channels such as WhatsApp, Telegram, and Discord were one of the primary ways to get involved in the climate movement, for instance, attending events and initiatives such as protests, beach clean-ups, festivals, conferences, and sustainability teams. For example, P4 and P1 learnt about activities like protests and conferences on online platforms such as Instagram, Facebook, and WhatsApp, and attended with friends. However, despite the low entry barrier in joining online groups, they often did not feel a sense of community on these platforms because they had no pre-existing social connections or contacts with the members; but they participated to fulfill individual needs or tried to build a sense of community on these platforms themselves. For example, P9 and P11 did not have an existing network, which made them feel uncertain about going to events. For example: "one of the reasons I haven't really been participating in anything before now is because [...] I don't want to go alone..." (P9) Thus, without an existing network, it was extra effortful for participants to foster memberships and a sense of community on

4.2 Experiencing challenges in belonging with respect to identity characteristics

Some participants without pre-existing networks found fitting into a particular community difficult as their sense of identity was constructed in a multi-dimensional way. Some more complex aspects of identity that participants reflected on demonstrated an interplay of their cultural, ethnic, racial, and religious identities with their national and social identities. For example, when trying to join a community for local sustainable actions, P10, a British South Asian man, felt that he did not identify with “a lot of well-meaning middle-class White people” and also found that in many offline contexts such as in his local community and a subreddit with “crazy racists” were not also welcoming. He raised an example saying that he sometimes felt conflicted between his South Asian community and the local White hipster community, feeling a sense of belonging to neither. P10 characterised the White hipster community with fashion trends like “man buns, crazy moustaches [and] tweed jackets”, hipster coffee shops and organic supermarkets, conveying that he thought this community was out of touch despite admitting he was “a bit of a hipster [him]self” (P10). He explained, “I could walk into the hipster coffee shop and understand the conversation we’re having about[...] new hipster trends. But walking [in]to the Pakistani sweet shops, because I understand the language they’re speaking, [...]the culture, [...]the conversations they’re having [...]helps me like recognise like ‘oh, the people at the hipster shop if they came in here, they wouldn’t connect in the same way’. [And they] will say very supportive things about ethnic minorities, but slightly off, like they don’t really understand like the issues[...] And that’s off-putting as well.” But he found it difficult to fit in with the local South Asian community as well, “So I’m Sikh, [...] I could go to the Sikh temple [...] and start [...] community gardens and projects from that. But I don’t want to be [...] involved in all the religious stuff.” P10’s experience showed that a sense of belonging and identity depends on a complex interplay of identity factors, where he identified with one group based on cultural but not religious grounds and socially with another. He said he was “weirdly straddling those two things” and the sense of disconnection made him feel set apart. Thus, POC sharing similar characteristics are not a uniform group and can share characteristics with other POC but also with the majority group.

A few participants who differed in their sense of identity expressed different opinions on how much they felt they were represented in the climate communities. A few participants felt that membership to the climate communities was “self-selecting”, meaning it is non-discriminatory depending solely on one’s passion for environmental causes. P7 (Bangladeshi woman) elaborated: “... it transcends, [...] ethnicity, age, race, and gender and stuff.” because climate change is “a global problem [...] like poverty and it transcends all races and religions and boundaries ...”. However, P11 who is mixed-race (Black and White woman) said that she experienced more “minority stress” and constant worries related to racial discrimination when joining collective actions: “in person, there’s always this kind of minority stress, which is if you look different like you just look different. And I think that’s always just a bit mentally stressing for me.” But P8 who is also mixed-race (White and Indian woman) agreed with P7 that “climate change isn’t discriminating, everyone is taking part to fight for the right to protect their own community... it’s everyone’s problem[... that] impact[s] the entire world” (P8). P8 felt that her identity did not impact her sense of belonging with the climate communities globally or locally. She added, “Because I am half White and half Asian I feel like I’m on both ends of the spectrum. But in terms of me as a mixed-race person,[...] I mean, do you really even know when the person is mixed race? No. [... climate change] it’s affecting all parts of the world and someone says something about it, you’re represented.” and “So far I haven’t been discriminated against for any of these reasons (referring to social-identity-related prompts shown)”. Thus, P8 felt part of the community and did not have feelings of being othered. Despite both being mixed-race P8 and P11 had different experiences based on their identity; thus the aspect of identity that is more salient or visible could affect people’s experiences. This example reinforced that fluid and socially constructed racial categories affect one’s sense of belonging to particular groups, and

677 membership may not only be determined by one's will to join a certain group but how a person may perceive whether
678 they belong. The contrast of the experiences of P8 and P11 above showed that a minoritised mixed race identity could
679 be experienced differently and individuals' perception of their own race could be shaped by their personal experiences
680 and how they felt people and society viewed and categorised them. For example, White passing individuals may be less
681 affected by identity representation perhaps because they may not experience the same "minority stress" as individuals
682 who do not pass as White in some contexts. These experiences align with previous literature where racial trauma
683 was shown to be experienced to different extents by people of different identities including mixed-race individuals
684 [22, 59, 94].
685

686
687 While self-selected membership was agreed on by other participants, some participants reflected on how such
688 membership was associated with a sense of normalisation of the status quo i.e., the predominance of White norms and
689 culture. P7 mentioned that Bangladeshi women like her were barely represented in climate conversations. When probed
690 about the underrepresentation she had experienced in webinars about climate activism, she said "you're so used to it
691 now, you don't really notice it anymore". She detached herself from relying on identity attributes to belong in the climate
692 movement treating it as mostly science-based conversations, but this detachment was not absolute. Racial identity and
693 other attributes did matter to her in other contexts such as vaccination and workplace diversity, as she felt her racial
694 identity was more salient in these contexts due to academic and political conversations and personal lived experiences.
695
696

697 **4.3 Participating in protest through relevant issues and values**

698
699 Many participants highlighted how there is little understanding or discussion around many culture-specific problems
700 in conventional climate conversations as they are mostly dominated by Western countries with White values. P10
701 attended the 2021 United Nations Conference COP26 conference, but felt that his cause was not reflected in the climate
702 communities. His passion revolved around climate change issues related to his "roots". He explained, "*Many [M]uslim*
703 *family members would follow the Arab Spring and Syrian conflict closely on the news. Knowing they resulted from ecological*
704 *and agricultural issues, I started taking interest in the peaceful solutions to these conflicts (as the conflicts fell on ethnic*
705 *divides which is something I want to avoid as an ethnic minority).*" He felt inspired to support Muslim individuals and
706 communities to tackle their national and local struggles related to climate change in the Middle East reflecting the
707 cultural connection he established between his "roots" and climate change but felt that such causes were not represented
708 by the wider movement. This highlights the disconnect with the mainstream climate movement, which can often come
709 across as "universal", ignoring pluralistic values.
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712
713 P6 discussed how connecting her activism with her cultural and ethnic roots could make her feel safer and more
714 engaged. She highlighted the lack of representation of African women in the climate protests, connecting to her salient
715 identity, "*... seeing [...] different representations of activism [...] from African women would probably make me feel more*
716 *comfortable.*" Further, P6 fundamentally differentiated between dominant forms of activism that she felt uncomfortable
717 with and other forms of protest that may have more cultural connections and encourage others to participate. She
718 found activism dominated by militant actions indirectly threatened her sense of safety by attracting police attention
719 and lacked cultural values that resonated with her, "*some of the representations I've seen are quite militant and that's*
720 *needed as well, but it would be nice to have a greater range. [...], there's craftivism and using creativity in activism, which I*
721 *really like. And that has good cultural or ethnic representation.*" This conveys the importance of culture-centred actions
722 that have received less attention.
723
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725
726 Through their stories, participants conveyed many feelings and experiences of alienation. These manifested in
727 different ways because of participants' own personal experiences of the climate communities as well as their own
728

729 past. But somehow even though their individual stories show their own uniqueness, they show commonality as to the
730 difficulty they face when navigating societal racial biases while participating.
731

732 4.4 Feeling fear due to differences and marginalisation 733

734 Participants expressed that they were fearful of being at a disadvantage and/or getting marginalised because of their
735 racial identity in multiple circumstances ranging from being in a protest to digital engagement. This feeling of fear
736 stemmed from their worries about becoming targets of racial discrimination and thus experiencing unfair treatment
737 or repercussions at the time of engagement or even in the future. Some participants highlighted XR movements and
738 protests as examples: while most participants supported the non-violent civil disobedience (NVCD) movements such
739 as XR, they had not participated in their events due to anticipated direct and immediate risks e.g., being arrested and
740 treated unfairly, police brutality, and concerns over long-term negative effects in their lives such as loss of livelihoods
741 due to being arrested. Two participants (P6 – Black woman, P11 – mixed race Black and White woman) who have been
742 to at least one XR protest expressed concern about their treatment in the protest. P11 said, *"I'm [...] very aware of my
743 own personal safety in relation to the police [...] if you just read the news, you know because of systemic racism in the
744 police force and if you stand out, you're more likely to be targeted because of the unconscious bias of the police [...]"* P6 felt
745 *"personal discomfort"* as she felt her salient identity as a Black woman could be a reason for police targeting, *" [T]here's
746 potential for police violence, and that feels frightening, but that may be for all women or[...] most protesters."* Thus, as
747 a result of traumatic stress caused by direct and/or indirect experiences of racial biases and systemic discrimination
748 towards POC, many participants could feel like they were putting themselves at risk by going to these events. P5, a
749 Black man, also agreed with similar values despite being of a different gender - he opted out of participating due to
750 being a POC: *"... this is where race could [be] an issue [...] let's say I was to join [...] Extinction Rebellion and [...] I was to get
751 arrested[...] it could negatively affect me in a worse way than somebody that is not a person of colour, so [...] it definitely is
752 something in the back of my mind [in regard to] run-ins with the law or the police."*
753

754 Such fear of being targeted by the system was talked about in in-person scenarios as well as in combination with
755 digital actions. P10 (South Asian man) felt that participating in climate activism digitally was unsafe, for example,
756 signing online petitions with identifiable information. He described his fear in relation to the history of undercover
757 police surveilling *"spying"* in the past [29, 30]. He explained, *"So the police in the UK [in 2010] infiltrated green groups
758 and left-leaning groups and it's made people very suspicious of the police infiltrating [groups], which is why I don't put my
759 name on the petitions anymore[...] Also, being South Asian [... I'm] worried about the police because I'm Brown."* He felt
760 accusations toward him could be justified not only because of his activism but also because of negative stereotypes of
761 him as a South Asian man, *"combined with [...] the monitoring of green activists and I feel like it's just another target on
762 my back. [...] if the police fuck something up and want someone to blame like they can just add another thing like, 'Oh well,
763 he was [a] terrorist' or something like I have a Muslim surname."* Thus, some participants' accounts showed that they felt
764 fearful and stressed about their participation due to their identity.
765

766 Some participants described their strategies to mitigate such stress. For example, P11 explained how her fear started
767 when the police at protests employed *"intimidating"* tactics e.g., *"even if standing on the pavement, the police w[ould] still
768 March by [her] and force [her] to move"*. She decided to leave protests before the police arrived and allies at the event
769 who looked out for her made her feel safer as well in this. She described, *"[I]t was really sweet, a lot of people I met at
770 that protest were like, 'Oh, the police are coming like you should take care of yourself.' And I thought that[...] showed a great
771 awareness of all the attendees of [these] kind of issues[...]"*. Thus, the community and the feeling of people looking out for
772 each other were helpful in making people feel safer at climate events.
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781 A few participants including P6, P11, and P3 feared long-term repercussions to their future career opportunities once
 782 they had been labelled as troublemakers or if it led them to “*hav[e] a criminal record*”. Some participants highlighted
 783 their fear of getting into trouble such as losing their jobs when referencing their elicitation materials presented in Figure
 784 3. They elaborated that being POC with a criminal record could lead to discriminatory treatment when job searching and
 785 could endanger their future careers and livelihoods. For example: “... *unless I was going to stay working for environmental*
 786 *organisations[...], actually having a criminal record and being an African woman would be very disadvantageous[...]. I was*
 787 *committed, but not to risk my liberty or ability to get other jobs [...] that was my primary reason for not [engaging in risky*
 788 *protest activities].” (P6)*



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803 Fig. 3. Image of Greenpeace protesters on an airplane ©Nick Cobbing / Greenpeace [21]
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806 Financial costs from getting arrested were another major deterrent. P11 who had been to two XR protests expressed
 807 concerns in regards to financial risks by participating, saying that “*it’s expensive to get arrested[...]* *I just don’t have*
 808 *the means ...”* P5 agreed that even though he said “*I [...] definitely resonate with their actions [...] [but] I don’t think the*
 809 *everyday person is willing to risk their livelihood [...] It’s a lot to give up.*” Despite rating themselves at the higher end
 810 of the subjective rating of social status ladder in the pre-interview questionnaire, we observed that most participants
 811 worried about financial costs from arrests or participation and felt that the protesters must be in a better economic
 812 position than them to take the associated risks. This could be due to their perception of financial security historically
 813 as minorities. Many POC still face racial segregation and disparity [2, 77, 86, 87] and might have had a hard time
 814 maintaining livelihood for their families resulting in them evaluating risks more carefully and prioritising to secure
 815 financial means as more important compared to their “*White middle-class*” counterparts e.g., [31, 120].
 816
817

818 Other participants felt that they experienced identity threats as activists and risked being singled out and othered
 819 due to the colour of their skin. P11 (mixed Black and White woman) mentioned how she felt that some media and
 820 organisations would single out POC in protests, capture them on visual media and use them for their self-serving
 821 “*narratives*” e.g., that POC were actually not underrepresented in the protests. Hence, when she was in the protests, she
 822 feared they would try to use her to fit their agenda: “*Sometimes I worry[...]* *because everyone has cameras there. [...] I’m*
 823 *really paranoid [...] because of the colour of my skin and then people take photos and be like, ‘See? Ethnic minorities do turn*
 824 *up!’ used as a shield and then I’ll be all over the front pages[...]*” She emphasised that she felt singled out and further
 825 marginalised as a result: “*I feel good increasing the diversity of attendance. But I don’t want to [...] be othered because of it.*”
 826
827

828 On the other hand, P11 suggested that some media reports could also distract people from the true cause of the
 829 protests, causing POC e.g., Black people, to turn against the climate movement. She said that the media overly focused
 830 on the racial tension at the protests to provoke a maximum emotional response from readers. Because the reports
 831
832

intended to provoke, she explained that they could make POC feel alienated and re-traumatised by reports of the underrepresentation of POC: *"If you see [the narrative of POC being underrepresented] time and time and time again, you're like 'This is only for White people'. So ethnic minorities would be like, 'Oh, this isn't for me', so it's a self-fulfilling prophecy. And people who are promoting that narrative are doing so in bad faith because they want to discredit the movement and cause division."* She believed that by focusing on the underrepresentation of POC in climate communities, the media could exacerbate deep societal division between the underserved and underrepresented racial minorities and the White majority that already exists in society. She offered the possibility that underserved POC did not tend to attend *"[p]otentially because [they][...] have less access to the financial gains and intergenerational wealth[...] to have [...] the time and mental resources to attend."*

4.5 Developing strategies for more control and agency and utilising anonymity

Even though participants highlighted that one of their fears of participating online is being identified and targeted, they also conveyed a sense of control and agency as they are free to make choices that they feel are favourable for them. For example, some highlighted that digital activism can afford anonymity, which in-person actions do not. Being anonymous could protect participants from negative stereotypes, biases, and racist judgements online when expressing themselves as they were wary of "trolls" or hate speech that targeted characteristics such as their minority status related to race, ethnicity, or gender. For example, P11 voiced: *"I don't want to face any racism online 'cause there's all these horrible trolls online."* (P11)

Despite experiencing hostility online, participants felt that online spaces and dynamics were more inclusive and safer than offline settings. P5 felt that anonymity *"levelled the playing fields for everybody"*. P5 elaborated, *"Online you are heard more, [...] more people are a bit more confident to speak online, especially when you can express your opinions anonymously."* (P5) He highlighted that anonymity enables effective moderation of power dynamics among people of different backgrounds as it fosters aspects of communication and community within a space where everyone is viewed as equal, addressing power imbalances. They felt that their opinions were taken more seriously than in-person and reported not feeling othered or unwelcome. For example, P10 said he no longer felt self-conscious about intruding on *"someone else's"* spaces, meaning the majority (White) spaces in this context, and found it easier to engage. P11 explained, *"I don't know how to describe it, because you're anonymous, you're equal[...] Like [...] gender, race or the other things[...] don't actually matter anymore, because the only thing that matters is what you actually say. And there's no like, 'Oh, this isn't my space because there's no one here that doesn't look like me.' Because you don't know what everyone else looks like and so like there's a lot of comfort in that."* (P10) Similarly, P11 preferred online spaces as she did not experience *"minority stress"* and felt more *"relaxed"* by *"blend[ing] into the background"* online, unlike in-person events where she felt she stood out.

Not only did the anonymity on platforms enable participants more control and agency, but also that participants could make decisions and execute strategies easily and freely in online environments in the way they feel comfortable with. For example, they would engage in certain platforms that afforded more anonymity for topics where they felt they did not want to reveal their identity due to possible repercussions. P11 mentioned that *"on Twitter, I would not be comfortable engaging [in conversations about activism]"* for fear of being identified.

Several other participants also demonstrated similar considerations for online actions and formulated coping strategies online that afforded a higher level of control and agency. Several participants said that they tended to *"stick to the issue"* and avoided bringing their identity into the discussion to deal with "trolls" and keep the discussion opinion-based. For example, P12 said: *"[W]hen I started with Twitter, I was nervous [...] of being trolled. But I always stick to the issue. [...], I*

885 *don't ramble on about the fact that I'm female, I'm an [industry role], I'm an Asian. I find that it really works for me. So*
886 *my constant messaging is "[the subject of her academic work]: [an aspect of her research] is important for sustainability*
887 *goals [...] or [another aspect of her research] is important for the climate agenda." (P12) Thus, P12 discussed topics she*
888 *cared about while creating boundaries around her identity or personal life. She said she "took a conscious decision [to*
889 *take] an issue-driven approach" which "makes things less personal". This could be interpreted as self-censoring, but she*
890 *felt safer and more in control.*

891
892 P10 had a different strategy: when he identified racist comments in a subreddit, he formed breakaway groups
893 and communities on Discord with like-minded people from that subreddit. This conveys a sense of flexibility and
894 convenience that online spaces offer in providing a higher sense of control for participants in creating their own safe
895 spaces and communities. He described, "[...] the discord groups kind of evolved out of people being worried [...] an ecological
896 collapse like in Syria. [...] I think ethnic minorities a lot of them are aware for example, if you're South Asian, you probably
897 will know about the terrible environment policies the British had in India and how that really fucks things up for a long
898 time [...] The Discord groups came out of Reddit because a bunch of people worried about ecological collapse are crazy
899 racist and think that there should be ethnostates and certain criteria to citizenship [...] is inherent to like your race or your
900 gender[...] So Discord is a safer place." Despite implying that the Discord members were "ethnic minorities", he admitted
901 he knew the identity of only a few. He added that "[he] d[id]n't really think online communities are really communities"
902 due to the lack of "real interactions" like "hug[s]" but he did "cha[t] with them on a regular basis". He felt that the online
903 group could evolve into real-life communities by meeting up. But this highlighted both the role of anonymity and a
904 higher level of control online over who knows what about your identity.

905
906 Participants actively tried to create safer spaces for themselves but also highlighted mechanisms in existing groups
907 that helped them feel included and safe. P11 described positive experiences on a few Telegram groups that motivated
908 her to join in-person actions. Despite previously having a passive interest in the climate crisis on Facebook, it was
909 joining "the group [on] Telegram that made [her] really excited to go." She mentioned how the organisers took active
910 steps to work on improving the safety and diversity of the space for POC making the space more inclusive e.g., inviting
911 diverse groups of speakers, highlighting talks about "decolonising discourses" etc. The policies that the organisers had
912 put in place (e.g., having moderators and clear guidelines) instilled trust in the group. She said, "... moderators are key
913 for online communication. [...] it is the responsibility of the organisation to moderate and have clear guidelines like we
914 won't tolerate any harassment towards those of protected characteristics [...] the groups I've joined, the leaders of the groups
915 are [...] saying at the very least that they really support equality, diversity, and I think they really probably do want a lot
916 more engagement from those groups."

917
918 Participants, therefore, showed how perceived safety and control could be asserted with both internal and external
919 forces despite the presence of unexpected and unwanted online threats and hostility. Individuals were able to strategise
920 ways to assert a level of control they wanted on the platforms but also felt that online communities could actively work
921 to create that level of comfort, safety, and control for individuals.

922 5 DISCUSSION

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924 The aim of our paper was to gain insight into the experiences and perceptions of POC in regards to their participation
925 in climate activism. We explored five main themes, including gaining membership to the climate activist community,
926 experiencing challenges in belonging with respect to identity characteristics, participating in protests based on relevant
927 issues and values, feeling fear due to differences and marginalisation, and developing strategies for more control and
928 agency, and utilising anonymity. Our findings show that POC face barriers in fitting into existing climate activist
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937 communities due to differences in experiences, values, issues, mechanisms of protest, and complexities of identity
938 representation. Feeling represented is not as straightforward as being part of a particular race or ethnicity, it includes
939 people's values and how they are perceived by others i.e., people of the same racial category could have vastly different
940 experiences of marginalisation and, in turn, feelings of belongingness. Additionally, POC express fear of being targeted
941 for their participation in the climate movement because of historical oppression and targeting from the police and
942 workplaces and racism online. Digital platforms have an advantage in that they provide anonymity and control over
943 what POC share about themselves and their identity while being anonymous and supporting equality when voicing
944 opinions.
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947 In this section, we reflect on the barriers that POC face in engaging with climate activism and suggest solutions that
948 can empower them to overcome these barriers and have more control over their participation. We suggest centring the
949 lived experience of race and minority identities, people's values and issues that have meaning for them, and creating
950 (smaller) communities of people interested in specific issues rather than a generic, universal movement. We highlight
951 ideas based on advocacy, community, and pluralism, which are not unique to us but reflected in other parts of critical
952 and sustainable computing, such as Feminist [6] and Anarchist HCI [57]. However, we foreground the specific influence
953 that people's racial and ethnic identity has on how they feel belongingness and representation in the climate movement.
954 We reflect on how ideas of representation, power relations, and context may influence our ways to make the climate
955 movement more inclusive of POC, especially on digital platforms. We urge developers and designers to consider these
956 suggestions in their design solutions for different scenarios and other stakeholders such as online group moderators
957 and environmental organisations to work on implementing these solutions. We suggest these solutions not be limited to
958 digital applications, but also be applied to in-person settings if possible such as through moderation, contents/materials,
959 and codes of conduct. Implications of our research in these areas and considerations for design for different purposes of
960 inclusion are further discussed.
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965 **5.1 Centering lived experiences of POC identities and influences on participation**

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967 Our analysis of participants' lived experiences when engaging in climate activism reveals how people's identities
968 influence aspects of their participation in the movement and that people's identities play a crucial role in their
969 participation in climate activism. Drawing on identity theories, our findings suggest that POC might struggle to fit
970 into existing groups due to ingroup favoritism [101], which means that people tend to form memberships with others
971 who share common attributes with them. All participants in our study found themselves racially underrepresented in
972 climate-change groups or events (being the only POC or the only one of their race) where the majority of participants
973 were White, making it harder for some POC to fit in because they share fewer identity attributes with other group
974 members. However, some POC felt a sense of belonging due to other shared attributes such as White-passing attributes,
975 educational background, or common climate goals.
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978 We argue that POC's race as well as its social constructs, as stated in CRT, could contribute together to affect one's
979 perception of racial identity and hence sense of belonging to the group as race as a fixed identity attribute cannot
980 fully influence one's feeling of alienation without systems of oppression socially constructed around it [64, 82, 100].
981 For instance, individuals of color in lower positions of power than White individuals may feel a lack of entitlement to
982 the same rights and opportunities within a group, which reinforces their sense of not belonging due to their differing
983 experiences. Therefore, we argue that an individual's perception of racial identity and sense of belonging within a
984 group can be influenced by both race and its social constructs, as outlined in CRT [82]. For example, some mixed-race
985 individuals who appear White may have an easier time fitting in than those who identify more strongly (or are perceived
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989 to by others) with their minority identities. Additionally, some POC may use a colour-blind or normalisation approach
990 [27, 28, 82, 83], attributing their underrepresentation to factors other than race or ignoring it entirely, while others
991 may attribute their marginalisation to power imbalances. These differences can cause value misalignment within the
992 community and make it challenging for some to feel a sense of belonging.
993

994 Using a constructionist lens, we analysed participants' behaviours with more nuance e.g., offering explanations for
995 participants' normalisation of underrepresentation in climate activism. Participants might tend to adopt a colour-blind
996 approach in situations where they feel like they need to fit in under White norms [27, 83]. For example, some participants
997 described membership as "self-selecting", where if one is passionate about climate change and wants to participate
998 they can do so regardless of race and other identity characteristics. This concept could be compared with the idea
999 of colourblind meritocracy i.e., the belief that if one works hard enough, one will succeed regardless of identity or
1000 background. Such beliefs can aid belongingness e.g., [101, 106]. However, coexisting with this is also the privilege
1001 people may possess apart from race or White passing e.g., how "White" a person is perceived due to whether they
1002 are multiracial, the colour of their skin [46, 58], their accent [47] and so on, which gives them a better chance to fit in
1003 [61]. Many other factors might also affect racial salience such as differences in lived experiences and racial trauma e.g.,
1004 [22, 84, 94] and immigrant generation statuses. Therefore, race is socially constructed, multi-faceted and complex [82].
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1008 Our results suggest that uneven power structures and anticipating external threats, such as fear of systemic surveil-
1009 lance [72] and online hostility like hate speech, could induce fear and affect POC's sense of belonging and engagement,
1010 and identification with these groups, deterring them from participating. We find that due to the feeling of alienation,
1011 POC might choose to either leave the group or engage only passively (similarly to [106] and [101]). Our participants
1012 felt threatened and being run out of spaces or not able to move freely within them due to uneven power structures and
1013 poor visibility of other POC participants (similar to [97]), for example, in large in-person gatherings such as protests
1014 because of personal safety and financial concerns. Due to fear of being seen and treated as an outgroup, POCs sense of
1015 belonging and community could be affected. Many POC may fear being arrested due to reasons such as immigration
1016 status or financial aspects, naturally excluding them from movements based on provocative demonstrative acts that are
1017 centred on the very premise of getting protesters arrested. Thus, POC's participation may be determined by structural
1018 factors rather than an unwillingness to participate. We are reminded by Dourish's work about spatiality and technology
1019 which highlights that "the production of a space is conditioned by one's access to and the legitimacy to the space" [25].
1020 Our work demonstrated that inequality and POC's fear of it undermined their legitimacy to access social spaces.
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1024 Thus, our work helped us gain deeper insight into the role of opinion-based identifications e.g., [38], and self-relevant
1025 identity e.g., [115], in influencing people's participation in climate activism. Previous work focused on the influence of
1026 fixed group identity such as racial identity and nationality on collective climate actions e.g., [73, 74, 113] but rather than
1027 treating the said identities as self-relevant, they essentialised race as a universal static dimension. Future work should
1028 explore why POC anticipate and/or find their racial identity relevant and salient in certain contexts and not others.
1029 This difference is especially important to explore in the context of an opinion-based social movement such as climate
1030 activism where the role and effects of social identity are not as immediately clear as those that are identity-related,
1031 such as the MeToo and BLM movements.
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1034 We would like to clarify that even though we adopted the constructionist framing in our work, we do not dispute
1035 that others may view and treat POC differently using the essential lens. Our motivation was to highlight how POC
1036 themselves interpret different signals or situations, helping to convey more personalised stories.
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1041 *5.1.1 Implications.* Our research findings indicate that access to digital and physical spaces is not always equitable,
1042 despite the fact that these spaces are designed for everyone. The barriers to access may be both structural and external,
1043 as well as associated with an individual's internal sense of identity and belonging. To better understand how POC
1044 perceive themselves in social spaces, even in the context of climate activism, we stress the importance of engaging
1045 with identity theories and CRT principles. As researchers, designers, and developers, we should consider these theories
1046 when evaluating the design of digital spaces for marginalised populations such as climate activists of color, in order to
1047 identify underlying power structures that may not be immediately apparent. Additionally, we emphasise the importance
1048 of co-creating and co-designing solutions with POC.
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1051 Our work also raises important questions about how we can address power imbalances within and outside com-
1052 munities, and how technology can be utilised to address imbalances of representation and privilege. For example, we
1053 must ask whether the voices and lived experiences of people of color are being centered or not on current digital
1054 platforms. We must also consider mechanisms that can be put in place to facilitate representation and encourage and
1055 mobilise other POC. These are significant questions that researchers and designers should address when designing
1056 digital platforms, and suggestions for doing so are discussed later in this paper.
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1059 **5.2 Centering diverse issues and values rather than purely universal ones**

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1061 Our findings showed that values, issues, and mechanisms of protests did not center POC. However, a sense of identity and
1062 belonging is critical to fostering better membership, community, and participation. Many participants felt disconnected
1063 because the values of the community did not align with their own, indicating a lack of understanding of their unique
1064 purpose, culture, and values. Therefore, support and solutions to facilitate POC's sense of belonging, community, and
1065 participation should be value- and issue-based. We suggest researchers and designers adopt a value-sensitive design
1066 approach [35, 36] to account for human values that are essential to climate activists of color to center their voices and
1067 participation [35, 36].
1068

1069 Participants highlighted various challenges at different stages of memberships to acquire a sense of belonging in
1070 climate communities. Despite the climate movement being opinion-based, participants' identities could still affect their
1071 memberships. New members, who primarily rely on digital platforms to participate, face particular challenges due to a
1072 lack of support and integration. There has been little discussion in the HCI literature on how a sense of community
1073 is developed online in social movements without pre-existing memberships or group identification. Previous works
1074 have focused on social identifications forming the basis for a community's collective action (e.g., via hashtags like
1075 #BlackLivesMatter [104] and #Metoo [44]) or people who already identify with each other coming together to work on
1076 a common initiative (e.g., organising the virtual Disability March [69]). Social psychological models of social identity
1077 in collective action (e.g., the encapsulation model [107]) show that opinion-related sentiments and alignment could
1078 precede social identification, meaning someone passionate about a topic but not yet identifying with a group might be
1079 looking for a group to identify with. However, there are a few suggested ways to support new members who initially
1080 do not identify with a group.
1081

1082 Cultural identification and intersectionality were crucial to participants' (dis)connection with climate communities.
1083 Group identification may not be limited to a unidimensional construct, such as race, but may include additional constructs
1084 like social class, education, and culture. Some participants noted the lack of cultural representation or the inability
1085 to identify with "White, middle-class" protesters, while some highly educated POC normalised underrepresentation.
1086 Intersectional identities could create unique perspectives, and contextualising POC's perspectives and needs under
1087 multiple interconnected systems of power is crucial for a fuller understanding of their experience.
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1093 **5.2.1 Implications.** Our work has identified the significance of value-based and issue-based representation. From
1094 this, we suggest that efforts to support POC's inclusion should focus on centering values that resonate with POC,
1095 such as foregrounding aspects of cultural identity. We recommend that designers, researchers, and environmental
1096 organisations employ value-sensitive design [35, 36] to foreground aspects of human values. Thus, we emphasise
1097 that people may have diverse approaches, values, and priorities towards climate activism. Future studies could also
1098 investigate if the enhancement of other aspects of human values, ethics, and meaningful issues could boost and facilitate
1099 POC's participation in climate activism.
1100

1101 While our study attempted to analyse the impact of intersectional identities such as gender, social class, and socio-
1102 economic status, it is important to note that this is an exploratory study, and more research is needed. Our study did,
1103 however, provide preliminary evidence on how factors such as social class and education could affect membership and
1104 participation. It also highlights how systems of power and privilege can limit POC's participation in climate activism.
1105 Future research could use frameworks such as Black feminist epistemologies and intersectional analysis of power to
1106 better understand how intersecting systems of power and oppression have affected POC communities in the past and
1107 present. (e.g., [28]). These kinds of work can help to identify how past systems and practices of oppression continue to
1108 affect marginalised communities in modern contexts.
1109

1110 It is important to recognise that underrepresentation of human values might not be relevant to some individuals but
1111 could be crucial to others. As designers and researchers, we should ask how technological platforms can be personalised
1112 to meet individual needs for specific content and interactions centered around cultural values and issues. Additionally, we
1113 should consider how normalising underrepresentation affects other POC and explore potential technological solutions
1114 to help set new norms for minoritised and marginalised voices.
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1119 **5.3 Strategies to reclaim space and control**

1120 Some participants reflected on how their racial or gender identities could attract personal attacks online when expressing
1121 their opinions. In response, they used different strategies such as self-censorship, normalising white norms, and choosing
1122 suitable communication platforms to assert a higher sense of control and counter the disadvantages they faced. This
1123 is consistent with previous research on identity management in digital spaces [66], which highlighted that when
1124 people encounter online spaces or situations where multiple group identifications are co-present, they manage their
1125 environments to prevent conflicts and identity-threatening situations [66, 101]. The above strategies are related to the
1126 potential for controlling what is shared. Anonymity was found to be an effective tool for supporting those who wanted
1127 to engage but were not confident in sharing their identity due to fear of being targeted or othered. Participants felt that
1128 anonymity created a level playing field for everyone and allowed them to freely express their opinions without feeling
1129 self-conscious or stressed about their minority identity. They gave examples of changing their behaviour based on
1130 how conspicuous or anonymous they felt on a site, such as self-censoring when they were more likely to be identified
1131 (e.g., through their names, handle, or avatars on social media). They wanted to avoid drawing attention to personal
1132 characteristics and stick to the issue of climate change to avoid personal attacks. In other cases, despite being less
1133 identifiable on communication channels such as Telegram, they might still choose to stay passive. Anonymity helped
1134 reduce the divisive effects of the imbalance of power against marginalised POC and potentially encouraged increased
1135 POC presence online, allowing participants to reclaim control in digital spaces for their voices and participation that
1136 they otherwise felt they lacked in person.
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1141 Earlier studies have suggested that anonymity on online platforms could work against POCs as anonymity on social
1142 sharing forums like Reddit could increase the likelihood of POC encountering hostility from polarised opinions [56, 67].
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1145 It could be argued that POC engaged in such strategies because anonymity could reinforce deindividuation which has
1146 been known to lead to higher hostility against outgroups. However, our study found that anonymity actually helped
1147 POCs engage and positively impacted their psychological well-being, autonomy, and engagement. In line with the
1148 Social Identity Model of Deindividuation [91], we found that anonymity could promote pro-social norms and provide
1149 protection to POCs against identity threats and hostility. Anonymity also allowed POCs to protect their identity from
1150 surveillance and information mining, which some participants were concerned about due to historic events.

1151
1152 Participants also found another way to reclaim agency online by forming smaller, tighter-knit communities that
1153 served as safe spaces. One participant, P10, broke away from a larger subreddit to form a safer, well-moderated
1154 community on Discord with people of similar values. This idea of decentralisation has been examined in previous
1155 studies, which have found that safe spaces created by individuals are dissociated with the centrality of the community
1156 e.g., the decentralised LGBTQ+ community in Los Angeles [55]. Hansson et al. found that the centrality of online
1157 communities could lead to a decrease in trust among members in online communities [44]. They examined online
1158 communities for Sweden's MeToo movement and found that as the groups and the public exposure of the movement
1159 grew, trust decreased within the groups. Thus, as trust among large groups become destabilised, members could break
1160 away from large groups. In the present case, however, there is a tension between forming tighter-knit communities for
1161 safety and identity: smaller communities could be beneficial to the individual but are they to the climate movement
1162 whose aim is to generate mass mobilisation? This tension between decentralisation and centralisation requires further
1163 attention in research to better support POCs, their values, and their navigation between the two worlds.
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1171 *5.3.1 Implications.* Our research highlights the need to reassess the ethical implications of technologies that enable
1172 systemic surveillance of marginalised communities, such as facial recognition, machine learning, and AI in surveillance
1173 and predictive policing [32, 96]. This not only perpetuates systemic racism but also exacerbates inequality in other
1174 areas, such as deterring POC from participating in climate activism, both in-person and digitally. These technologies
1175 slow down anti-racist efforts in building an equitable space for every race and every person [82]. Therefore, researchers,
1176 designers, and developers must take responsibility, understand the harm that these technologies can cause to social
1177 engagement with communities and activism, and take action to stop the harm.

1178
1179 In addition, researchers in HCI and CSCW and designers of online social platforms must rethink existing practices
1180 and designs of digital spaces and their impact on POC's physical and digital mobility from one group to another [105]
1181 or from one space to another [25]. For example, the connection between mobility and anonymity could be explored
1182 further. Our work identified different levels of difficulty for people to move or develop membership from one group to
1183 another i.e., people with pre-existing membership find it easier than self-nominated individuals. Digital platforms left
1184 the burden on individuals to fit in and find a sense of belonging. However, we found, from strategies formulated by
1185 our participants, anonymity was an effective way to neutralise socially constructed imbalances of power for identity
1186 differences. Therefore, anonymity could benefit one's mobility in communities and online spaces. Our findings suggested
1187 that POC had different preferences and felt safer on certain platforms than others. Designers could incorporate more
1188 functions on the platform that allow users more autonomy to control their anonymity or representations of their
1189 identity. More culture-aware policies and practices may also help their involvement. Inclusive design solutions for
1190 technology warrant further attention to better help participants in self-nominating situations.
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5.4 Considerations for Design

In this section, we reflect on technology-focused methods to address three main considerations highlighted in our findings through the design of platforms to facilitate climate activism. Table 2 shows these considerations and corresponding questions and recommendations for researchers and designers in this space. We have noted the application of recommendations ("How" column) to digital and in-person settings, where possible, but the considerations are intended as a starting point not as a complete list.

Table 2. Considerations for Design

Subject	When?	With whom? By Whom?	How?
<i>Addressing power relations</i>	In gaining community membership	<p><i>With:</i> New members especially those who do not have pre-existing membership(s)</p> <p><i>By:</i> Environmental organisation leaders and platform moderators</p>	<ul style="list-style-type: none"> • Develop explicit codes of conduct: methods and norms for welcoming online members, offline interactions where people could connect with others based on value-based and identity-related identifiers and setting up no hate speech rules and related consequences [34, 42, 99] • Show statistics on reported hostile behaviours and corrective actions of groups [79]
	In creating spaces	<p><i>With:</i> POC and/or other marginalised climate activists and content creators</p> <p><i>By:</i> Platform designers and researchers</p>	<ul style="list-style-type: none"> • Co-create algorithms that are transparent and amplify (suppressed) content created by POC and personalised to POC's individual values and needs [23, 40, 95] • Moderate spaces by involving minoritised content creators' feedback about algorithm changes and in co-creating processes
	In increasing representation	<p><i>With:</i> All climate activists</p> <p><i>By:</i> Platform designers and researchers, environmental groups and organisations</p>	<ul style="list-style-type: none"> • Emphasise and utilise story-telling [82] by amplifying POC's content especially those that are historically being suppressed [23, 40, 95] • Amplify content of lived experiences shaped by all aspects of one's identity such as where they grew up, their heritage background, and so on instead of just their racial makeup [63]
<i>Empowering the individual</i>	In foregrounding values	<p><i>With:</i> Members of colour who struggle to belong based on essentialist identity categories</p> <p><i>By:</i> Platform designers and researchers and environmental groups' leaders and moderators</p>	<ul style="list-style-type: none"> • Promote personalised co-created algorithms that are value- and issue-based when showing content and suggestions for new groups • Help keep meaningful conversations and long-term momentum going – create channels based on different episodic events or issues for discussions • Promote local engagement, leadership, and alliance to build rapport [81]

1249		To tackle normalisation of underrepresentation of POC	<p><i>With:</i> Opinion-based climate activists</p> <p><i>By:</i> Community leaders and moderators and community members of minoritised and marginalised identity</p>	<ul style="list-style-type: none"> • Encourage people of marginalised identity to be active and share their personal experiences (anonymous or not) regarding underrepresentation • Debunk colourblind perceptions and advocate to set new norms for representation [82]
1250	Reclaiming decision-making power	Easy access to like-minded communities	<p><i>With:</i> All climate activists</p> <p><i>By:</i> Platform designers, environmental organisations' leaders and moderators and all climate activists</p>	<ul style="list-style-type: none"> • Gain membership based on climate credentials rather than identity by enabling, for example, preferred modes of protests and issues of interest to be added as tags • Encourage participants to add tags to easily connect with people by values and issues • Open a variety of mediums for communication so people can choose the most appropriate one for themselves
1251		Awareness of privacy and security needs	<p><i>With:</i> All minoritised and/or marginalised climate activists</p> <p><i>By:</i> Environmental organisations' leaders and moderators</p>	<ul style="list-style-type: none"> • Community moderators should emphasise that people can be members in the way that they feel comfortable including being anonymous [5] • Encourage voices, anonymous or not, to tell their stories, by that, to start setting new norms and change the ecosystem of engagement • Offering a variation of medium for communication to address people's concern for safety
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5.4.1 *Addressing Power Relations. In gaining community membership:* Our results suggest that participants valued organised groups where they had more visibility of group norms and practices. For new members who need to seek their own membership digitally, environmental organisation leaders and platform moderators can develop methods and norms for welcoming new members. Explicit codes of conduct (documenting rules such as no hate speech or discrimination against marginalised identities and related consequences) can support new members in finding a sense of confidence in interacting with the community by making them aware of the norms [34, 42, 99]. For example, for online communities, new members could be welcomed into groups by an introduction by an existing member and support to catch up with existing discussions (through summaries of content, that could be automatically generated and facilitated through large language models such as OpenAI). To facilitate offline interactions, people could be linked with others in events such as protests with the help of value-based and/or identity-related identifiers in digital platforms. In addition, statistics on the amount of reported hostile behaviour and corresponding corrective actions at a group level could also help people to decide whether to participate in those groups. With increasing access to online data, this can be achieved algorithmically and may be worthwhile to make spaces safer [79].

In creating spaces: Platform developers, designers, and researchers should utilise co-creation and co-design processes with POC for designing spaces and algorithms to facilitate equal treatment of POC's digital content and foreground values that are important to POC [45]. In moderating spaces as well, the participation of POCs is crucial. Algorithms should be transparent as to on what basis, contents are shown to users. In this, algorithms could amplify content created by minoritised and marginalised climate activists of colour but also be personalised to users' individual needs and

1301 values, if applicable. Platform designers and researchers could also moderate the engagement with this content and be
1302 more aware and gather feedback from content creators on how they feel their content is being received.

1303 ***In increasing representation:*** Digital platforms could also be designed better to raise awareness about representation
1304 within climate communities. Environmental group leaders and moderators could encourage POC to share their lived
1305 experiences and utilise story-telling as a powerful tool to amplify POC's voices [82]. Emphasis could be put on
1306 encouraging people to share a more holistic story of their experience regarding all aspects of their identities, for example,
1307 incorporating how other factors like where they grew up and their heritage, cultural and language backgrounds [63]
1308 and values or issues of interest, rather than only their racial makeup affect their experiences. Algorithms could then be
1309 optimised to help this content which is historically suppressed [23, 40, 95] to become visible.
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1313 **5.4.2 Empowering the individual. *In foregrounding values:*** Digital platform designers could promote a more per-
1314 sonalised algorithm to help members who seek membership via more pluralistic values and struggle to belong based
1315 on essentialist identity-related categories. This could be achieved by co-creating value- and issue-based algorithms
1316 for showing content and suggestions for new groups. Also to aid longer-term engagement with these individuals,
1317 environmental groups' leaders and moderators could create different channels, for example, on Discord to provide a
1318 platform for issue-based discussion of episodic events. This could help keep conversations alive and engagements active
1319 in ways that these individuals are comfortable with and interested in. Platform designers could help by facilitating the
1320 setting-up process of these channels such as suggesting guides for channels to centre around issues-based or making
1321 suggestions of what channels to set up based on people's discussion points. Promoting local engagement, leadership,
1322 and alliance through digital algorithms could help members connect and feel closer to people of close proximity. This
1323 could aid trust and respect for local actors to speak on their behalf if they wish to [81].
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1326 ***To tackle normalisation of underrepresentation of POC:*** Community leaders and moderators could encourage
1327 POC to share lived experiences on digital platforms, whether it be anonymous or not, regarding underrepresentation
1328 and how they are being affected by it. It is important that channels of communication are open so community members
1329 could discuss openly but respectfully. In combination with conversations to debunk colourblind perceptions [27], open
1330 communication could help set new norms for representation. To increase awareness of the issue, having occasional
1331 town halls or ways of capturing experiences could be useful to raise awareness. There is a tension between the desire
1332 for anonymity and visibility to generate confidence in joining a community and mobilising others for climate action,
1333 which platforms need to manage.
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1337 **5.4.3 Reclaiming Decision-Making Power. *Easy access to like-minded communities:*** Mechanisms could be put in
1338 place by platform designers where members are encouraged to gain membership based on climate credentials rather
1339 than identity. This could be done by enabling, for example, preferred modes of protests and issues of interest to be
1340 added as tags to groups and members. Leaders and moderators of digital groups could encourage members to add tags
1341 to help identify like-minded people easier to facilitate a sense of community and connection. A variety of mediums of
1342 communication could be opened so members could choose one that works best for them. For example, communication
1343 channels such as WhatsApp could feel more personal and engaging than social media.
1344

1345 ***Awareness of privacy and security needs:*** Some POC feel a stronger need to stay anonymous, and as environmental
1346 leaders and moderators of digital platforms, it is important to have awareness of this and respect members' decisions
1347 to engage in the way that they feel comfortable but there are questions around how to increase trust and manage
1348 engagement regardless of anonymity [5]. Engaging with mediums that people are comfortable with and offer different
1349 degrees of security can be helpful e.g., people might be more likely to engage on Telegram unanonymously due to
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1353 feeling safer than on Twitter or Reddit. Expiring content after a length of time can also help to encourage participants
1354 to share.
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1356 5.5 Limitations 1357

1358 We recruited a range of participants from different racial backgrounds. We know different POC might be marginalised in
1359 different ways; we endeavoured to carefully offer insights into different participants' experiences without generalising
1360 all racial experiences by offering contexts and focusing on common or contrasting experiences. But we acknowledge
1361 and highlight that their experiences are different and that we might have inadvertently conveyed them as a homogenous
1362 group of people. Conversely, since we are offering insights from different racial, ethnic, socio-economic, and cultural
1363 perspectives, we might not have been able to report in-depth on certain experiences specific to a subgroup of POC.
1364

1365 Despite trying to recruit a diverse and larger sample, we encountered some challenges in the recruitment process.
1366 First of all, initially in our pilot study which recruited through [university name] subject pool, there were more East
1367 Asians such as Chinese and Koreans signed up for the pilot study than any other race. We believe it could either be due
1368 to a higher representation of Asian students in the university [4] or that participants identified with the first author's
1369 racial identity and therefore more likely to sign up. In contrast, when we recruited through social media and mailing
1370 lists for the main study we managed to recruit people of other racial backgrounds but not many East Asians.
1371

1372 Despite our attempts to get a more diverse sample, we were unable to recruit participants from a lower income
1373 background or educational background. One of the reasons is that we already encountered difficulties just simply
1374 recruiting POC through social media and reaching out to different climate justice organisations and mailing lists. This
1375 population was hard to reach, and it was even harder to reach people from lower socio-economic backgrounds. We had
1376 relative success in recruiting through [university sustainability committee]'s Twitter, but this network of people tended
1377 to be from a higher education and/or income background. More discussions within the HCI community to share advice
1378 on how to build rapport in recruiting especially in places outside of the US are needed. The same reason applies to the
1379 uneven distribution of gender in our sample, we had difficulties recruiting participants in general and it would have
1380 been even more difficult to recruit a gender-diverse sample.
1381

1382 Furthermore, after interviewing participants, we realised there might be more nuanced differences in the social
1383 construct of race, i.e., how people feel their race is relevant in certain situations, depending on whether people were born
1384 in the UK or not (e.g., first-generation or second-generation immigrants) or if they were nationals or not. Marginalisation
1385 could have been a relatively newer concept to non-nationals and first-generation immigrants whereas it could be
1386 everyday life for those who were born in the UK, therefore, more likely to normalise White norms. Future studies could
1387 investigate their perceptions of racial identity and how it affects their participation in the climate movement.
1388

1389 Finally, we encountered practical challenges in displaying detailed demographics for each individual to allow a
1390 deeper appreciation of the effects of intersectional identities. Participants have shared very personal stories with us,
1391 some with greater detail than others. Nonetheless, to minimise the risks that they could be identified, we decided to
1392 aggregate and present participants' demographics this way. However, future studies could obtain specific consent from
1393 participants for researchers to examine this particular topic of intersectionality.
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1399 6 CONCLUSION 1400

1401 Participation in the climate movement is not only about tackling the scientific problem of climate change but also about
1402 the social issue of *how* we tackle it. Our work centres the lived experiences of POC and highlights that sense of identity,
1403 belonging, and membership play a crucial role in their participation in climate activism. This sheds light on the future
1404

1405 developments for inclusive design to centre diverse values and issues rather than universal and unidimensional ones
 1406 to facilitate POC's participation. This work is therefore also a work of advocacy and a call for action and research to
 1407 rethink and move away from existing designs structured within systems of power in order to empower voices of smaller
 1408 minoritised communities and identities in climate activism.
 1409

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