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# Effects of an ethnically diverse vs. non-diverse image of environmental organisations on autochthonous and Turkish people's pro- environmental behavioural intentions

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### Abstract

Ethnic minorities are still underrepresented in environmental organisation and commonly misperceived as being less environmentally concerned than they are in fact. The present study focuses on the role of diversity in environmental organisations for pro-environmental behavioural intentions of autochthonous and Turkish people. It aims to replicate the Pearson et al. (2018) findings of the misperceptions of environmental concern and that these misperceptions can be reduced through an ethnically diverse image of an environmental organisation. Additionally, it aims to extend the Pearson et al. (2018) findings by assuming a moderated mediation with perceived identity-safety as an additional mediator. Therefore, Turkish and autochthonous participants ( $n= 306$ ) completed an online experiment in which a fictitious environmental organisation was presented as either ethnically diverse or non-diverse. As expected, the environmental concern of Turkish people was found to be underestimated and generally perceived as lower than the environmental concern of autochthonous people. This perception has been found to be influenced by the ethnic group membership. Surprisingly, autochthonous people's environmental concern was also underestimated. There was no evidence of moderation effects of the organisational image on the relations of group membership on perceived identity-safety, perceived environmental concern, and pro-environmental behavioural intentions. Consequentially, there was no moderated mediation effects of the predictor group membership on the criterion pro-environmental behavioural intentions, with perceived identity-safety and perceived environmental concern as mediators and the organisational image as the moderator. The paper concludes by discussing these findings and providing perspectives for future research.

*Keywords:* diversity, environmental concern, identity-safety, pro-environmental behaviour intentions

## Introduction

In the past years the question on racism and stereotypes in the climate movement gained increasing attention. One of the most popular examples of racism in this context was the case of Vanessa Nakate in 2020. Nakate, a Black environmental activist, was cropped from a photo with other White activists by The Associated Press. Associated Press stated that the reason for that was the composition of the picture, Nakate, however, pointed out racism behind this action (Evelyn, 2020; Nakate, 2020). This is only one example of how racism still exists in the presentation of environmentalists. As a consequence of presenting environmentalists or environmental organisations as consisting mostly of people of ethnic majorities, members of ethnic minorities might feel unsafe in their ethnic identity in this organisation (Purdie-Vaughns et al., 2008). Yet, the picture of the “White middle-class environmentalist” is still a common stereotype people have in their minds, regardless of whether they consider themselves a member of this group or if they self-categorise a member of an ethnic minority (Pearson et al., 2018). Additionally, both people of ethnic majorities and minorities underestimate the environmental concern (EC) of ethnic minority groups while they tend to overestimate majority group’s EC (Pearson et al., 2018). These misperceptions are problematic for multiple reasons. Firstly, they reproduce stereotypes of an already marginalised group. Secondly, members of ethnic minorities are most affected by the detrimental consequences of climate change but also those most marginalised from and underrepresented in environmental organisation (Green2.0, 2023; Pulido, 2016). Such negative stereotypes and perceptions as the association of environmentalists with solely ethnic majorities may inhibit members of minority groups from engaging in pro-environmental behaviours (Bashir et al., 2013). Consequently, misperceptions towards minority groups might further contribute to this environmental injustice. Finally, this adds to the bigger picture that climate change is an issue that needs to be tackled through collective

action and different groups collaborating, which might be inhibited by misperceptions towards ethnic minorities (Lewis Jr. et al., 2021; Masson & Fritsche, 2021).

In the presented study a fictive environmental organisation will be presented as being either ethnically diverse or non-diverse. The aim is to identify the effect of this ethnically diverse vs. non-diverse image of the organisation on the relationship between ethnic group membership (i.e., one's ethnic self-categorising) and the intention to engage in pro-environmental behaviour with perceived EC and perceived identity-safety as potential mediators. The proposed study is based on research by Pearson et al. (2018) and aims to replicate their findings that both ethnic majority members and ethnic minority members perceive the EC of ethnic minorities as lower than the EC of ethnic majority members and as lower than it is in fact. Furthermore, it aims to replicate that these misperceptions can be reduced through an ethnically diverse (vs. non-diverse) image of an environmental organisation. Additionally, it extends the Pearson et al. (2018) findings by systematically differentiating between perceived EC and perceived identity-safety as two potential explanations of the relationship between group membership and the intention to engage in pro-environmental behaviour, in a German context.

### **Theoretical background**

The following section presents the theoretical background of this paper by first giving insights into Social Identity Approach as a framework to understand pro-environmental behaviour. Afterwards, the role of EC and identity-safety are presented, pointing out the relevance of these two factors regarding different ethnical backgrounds.

#### **Social Identity Approach, Group Membership and Environmental Behaviour**

Social Identity Approach integrates Social Identity Theory (Tajfel & Turner, 1979) and Self Categorisation Theory (Turner et al., 1987) and describes group membership as an integral part of one's self-concept (Hornsey, 2008). How people perceive their in-group may

therefore greatly impact their own behaviour. One relevant factor that can influence one's behaviour are group norms (Hogg & Reid, 2006; Hornsey, 2008). People whose social identity plays a significant role for them may understand themselves as self-stereotyped group members (i.e., only part of the in-group) instead of a unique individual and therefore, think, feel, and act according to the norms of their in-group (Dono et al., 2010). The perceived in-group prototype determines what a group stands for including their norms, actions, and goals which in turn, give people a direction for their own behaviour (Fritsche et al., 2018). Thus, how one perceives their own in-group, as well as the in-group norms, may greatly impact how a person perceives themselves, thinks, and behaves. Respectively, in a group that is not associated with pro-environmental norms or with environmentally friendly behaviour, group members may be inhibited from acting environmentally friendly themselves and vice versa (Fielding et al., 2008; Masson & Fritsche, 2021; Nolan et al., 2008).

Research suggests that the group stereotypically associated with the term environmentalist by members of ethnic majorities as well as minorities are White people and that ethnic minority members are less likely to identify as environmentalists compared to majority group members (Gibson-Wood & Wakefield, 2013; Pearson et al., 2018; Schuldt & Pearson, 2016). Considering that members of stigmatised groups identify more strongly with their group compared to members of non-stigmatised groups (Schmitt & Branscombe, 2002), such negative stereotypes and perceived norms may inhibit members of minority groups from engaging in pro-environmental behaviour even more than members of majority groups. This can be seen in the fact that ethnic minorities are still underrepresented in environmental organisations and initiative as evidence from the US indicates (Green2.0, 2023). In Germany, anecdotic evidence suggests a similar underrepresentation (Sommer et al., 2019). To equalise ethnic representation in environmental organisations in the future, it is worthwhile to investigate what keeps ethnic minority members from joining environmental organisations

and how their intentions to do so can be enhanced. Two factors that can serve as explanations in this context are low levels of perceived EC and identity-safety, which will be discussed in the following.

### ***Environmental concern***

One kind of group norm that can impact people's perception of their in-group is their group's perceived EC. The EC of a person describes one's problem awareness regarding the environment, support for efforts and/or willingness to contribute personally to solve these problems (Dunlap & Jones, 2002). People who are concerned about climate change agree that human behaviour is the cause of changing climatic conditions (Akter & Bennett, 2011). Consequentially, EC has often been found to be related to pro-environmental intentions as well as pro-environmental behaviour (Poortinga et al., 2004; Steg & Vlek, 2009; Stern et al., 1995). More concretely, Dienes (2015) found that people who have a higher EC have greater intentions to pay for measures that mitigate the effect of climate change. In addition, the perception of climate change and whether long-term consequences are noticed is positively correlated to people's willingness to pay to reduce climate change related risks (Liebe et al., 2011; Veronesi et al., 2014). Moreover, literature suggests that people with higher EC are more likely to take action to mitigate climate change themselves (Dienes, 2015; Wicker & Becken, 2013).

As an individual's EC can be understood as an environmental attitude (Rhead et al., 2015), it may be influenced by the perceived attitudinal norm within one's in-group. Such perceived group norms and goals predict group members' climate action (Masson & Fritsche, 2021). Thus, how group members perceive the EC of their in-group may not only influence their own EC but also their intention to take climate action (Pearson et al., 2018). Perceiving one's in-group EC as low may therefore inhibit people from taking climate action. The perceived EC of different social groups varies greatly especially when having a closer look at

ethnic majority and minority groups (Pearson et al., 2018). Findings by Pearson et al. (2018) suggest that EC of ethnic minority groups (i.e., Latinos, Asians, and Black people) is underestimated by both White participants as well as participants of the respective group while the EC of White people is overestimated. However, the opposite pattern was found when investigating self-reported levels of concern, with people of minority groups reporting significantly higher levels of concern on average than White participants (Pearson et al., 2018). This misperception of the perceived EC of ethnic minorities may lead to assumptions that can hinder minority group members from showing pro-environmental behaviour. First, perceiving one's in-group as less environmentally concerned may create a feeling that pro-environmental behaviour is not a value their group stands for which then inhibits minority group members from engaging in pro-environmental behaviour (Dono et al., 2010; Fritsche et al., 2018; Turner et al., 1987). Second, minority group members perceived themselves as more environmentally concerned than their fellow in-group members, showing a pattern of pluralistic ignorance (i.e., an inaccurate perceptions of others opinions or attitudes; Pearson et al., 2018). The resulting feeling of being alone with one's attitude may lead to a shift in one's attitude towards the perceived norm (Leviston et al., 2013; Prentice & Miller, 1993), conforming to the behaviour related to the perceived norm (Miller & Prentice, 2016; Prentice & Miller, 1993), and feeling alienated from the group (Prentice & Miller, 1993). Put into the presented context, ethnic minority members may develop a reduced EC than they initially had and may show less pro-environmental behaviour due to the underestimation of ethnic minority group's EC.

### ***Identity-Safety***

Identity-safety refers to a sentiment perceived in environments with a reduced risk of experiencing stereotypes that threaten one's identity (Davies et al., 2005). It is associated with feelings of trust, comfort, and belonging (Burrows et al., 2022). Identity-safety may be



related to any kind of social identity, however, most research in the field focuses on groups marginalised due to their race, gender, or sexual orientation (Burrows et al., 2022; Davies et al., 2005; Derricks et al., 2023; Johnson et al., 2021). People of ethnic minorities regularly experience discrimination because of their race or ethnicity which can elicit worries that their racial identity will not be valued in the future (Derricks et al., 2023). Such concerns may specifically occur in settings, such as environmentalism, in which misperceptions and racism towards minorities already exist (Derricks et al., 2023; Henderson & Wells, 2021; Pearson et al., 2018). To reduce these concerns research from various fields suggests promoting identity-safety cues to create feelings of belonging and trust (Burrows et al., 2022; Lewis et al., 2016; Pietri et al., 2018).

### **The moderating effect of the image of an organisation**

How an organisation presents itself may influence people's attitudes towards this organisation. The presentation of an environmental organisation as either ethnically diverse or non-diverse may influence the intention to join the presented group through increasing perceived EC and identity-safety. In a study by Pearson et al. (2018) such an ethnically diverse presentation of an environmental organisation was tested. Therefore, a picture of the group members of the fictive organisation was included showing people of different ethnical and racial backgrounds and describing the organisation as diverse while the control group received a plain text with no such descriptions (Pearson et al., 2018). They found that in the control group the misperception of overestimating White's EC and underestimating minority group's EC remained while in the diverse condition this perceived difference was significantly reduced. Surprisingly, the misperception was not reduced through an increase in perceived EC of minority groups, as expected, but through a decrease in perceived EC of White people (Pearson et al., 2018). Pearson et al. (2018) suggest that this may be due to presenting Whites as a statistical minority in the diverse condition which may have made

Whites and their low representation more salient when making inferences (Pratto et al., 2007). Another possible explanation might be that through the missing picture in the non-diverse condition, the non-diverse image of the organisation was less salient to ethnic minority group members, which is why no significant increase of perceived EC of ethnic minorities compared to the diverse condition could be found.

A second factor through which an ethnically diverse image of an environmental organisation could increase minority group members' intention to engage in environmental behaviour is identity-safety. Presenting an organisation as racially and ethnically diverse may effectively create higher feelings of identity-safety for people of the respective ethnic group. To increase feelings of identity-safety and reduce threat, representation matters (Avery, 2003; Burrows et al., 2022; Davies et al., 2005). Research shows that women pursuing an engineering major had stronger feelings of belonging in this field, more self-efficacy, and more women remained in their major after one year when they had a female mentor compared to when they had a male or no mentor (Dennehy & Dasgupta, 2017). A similar effect can be observed within other marginalised groups. Burrows et al. (2022) found that when an organisation was endorsed by a former Black female employee, Black female participants not only experienced more identity-safety but also had a higher attraction to the organisation compared to when it was presented by a White female employee. Further research focused on the effective use of diversity statements (Avery, 2003) and the importance of the stated diversity philosophy (i.e., either highlighting the value of diversity or highlighting colour-blindness; Purdie-Vaughns et al., 2008). Findings suggest that especially when there is a low representation of minorities the stated diversity philosophy may increase feelings of trust amongst minority group members (Purdie-Vaughns et al., 2008). Thus, an intervention as presented by Pearson et al. (2018) in which a picture of ethnically diverse group members was shown and inclusive language was used, may increase feelings of

representation and therefore perceived identity-safety. The increased identity-safety may in turn positively influence people's perception of the presented group and their interest in becoming a member of this group (Burrows et al., 2022). Indeed, Pearson et al. (2018) found that through the presentation of the organisation as ethnically diverse people of minority groups perceived the organisation as more welcoming and inclusive, which has both been found to influence their interest in participating in the organisation. The interest of people of majority groups in participating in an organisation was also influenced by how inclusive and welcoming they perceived the organisation. However, presenting an organisation as ethnically diverse vs. non-diverse did not affect how inclusive or welcoming they perceived the presented organisation (Pearson et al., 2018). Similar results were found by Purdie-Vaughns (2004) who suggests that minority representation and diversity philosophy do not influence feelings of trust and comfort of White participants.

### **Hypotheses**

The presented paper aims to answer the question “How does a diverse vs. non-diverse image of an environmental organisation influence the relationship between group membership and the intention to engage in pro-environmental behaviours?” The model in Figure 1 displays the assumed relationships between the different variables.

As covering a variety of ethnic groups would exceed the scope of this paper, the focus will be on people who self-categorise as autochthonous as the majority group and people who self-categorise as Turkish<sup>1</sup> as the largest minority group in Germany (Bundeszentrale für politische Bildung, 2022). The term *autochthonous* refers to people native to a certain country (Jungbluth, 2017) and for the purpose of the presented paper, more concretely is defined as persons perceived as German because of physical characteristics such as being

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<sup>1</sup> In the following the shorter expressions *autochthonous* and *Turkish people* will be used which nevertheless refer to people's self-categorisation with the respective group.

light-skinned, their first and main language being German, and who have lived in Germany for several generations.

The findings by Pearson et al. (2018) suggest that the EC of ethnic minority groups is underestimated by both people who self-categorise as being a member of the majority group as well as those who self-categorise as a member of the respective minority group. Likewise, the EC of the majority group is overestimated. Comparing the perceived EC of ethnic minority and majority groups, findings show that EC of majority groups is perceived to be higher than the concern of minority groups. In the context of this paper, these findings by Pearson et al. (2018) are aimed to be replicated in a German context. Hence, the following hypotheses are derived.

H1a: Both autochthonous and Turkish people perceive the EC of Turkish people as lower than it is in fact.

H1b: Both autochthonous and Turkish people perceive the EC of autochthonous people as higher than it is in fact.

H2: Both autochthonous and Turkish people perceive the EC of Turkish people as lower than the EC of autochthonous people.

The EC of different ethnic groups is still commonly misperceived, a misperception that may be reduce through an ethnically diverse presentation of an environmental organisation (Pearson et al., 2018). EC has repeatedly been found to be related to pro-environmental behaviour (e.g., Dienes, 2015; Steg & Vlek, 2009; Wicker & Becken, 2013). Further, an ethnically diverse presentation can positively impact the perceived identity-safety of ethnic minorities (Burrows et al., 2022; Purdie-Vaughns et al., 2008). Creating feelings of trust, comfort, and belonging, as associated with identity-safety, increases the people's attraction to a group (Burrows et al., 2022). Respectively, the following hypotheses were derived:

H3a: The relationship between the group membership (i.e., self-categorisation as either autochthonous or Turkish) and the intention to show pro-environmental behaviour is moderated by the presentation of an environmental organisation as diverse (vs. non-diverse) such that a diverse image increases the intention to show pro-environmental behaviour of Turkish people while it has no or even a negative effect on the intention of autochthonous people.

H3b: The relationship between the group membership (i.e., self-categorisation as either autochthonous or Turkish) and perceived EC is moderated by the presentation of an environmental organisation as diverse (vs. non-diverse) such that a diverse image increases the perceived EC of Turkish people while it has no or even a negative effect on the perceived EC of autochthonous people.

H3c: The relationship between the group membership (i.e., self-categorisation as either autochthonous or Turkish) and perceived identity-safety is moderated by the presentation of an environmental organisation as diverse (vs. non-diverse) in that a diverse image increases feeling of identity-safety of Turkish people while it has no or even a negative effect on the perceived identity-safety of autochthonous people.<sup>2</sup>

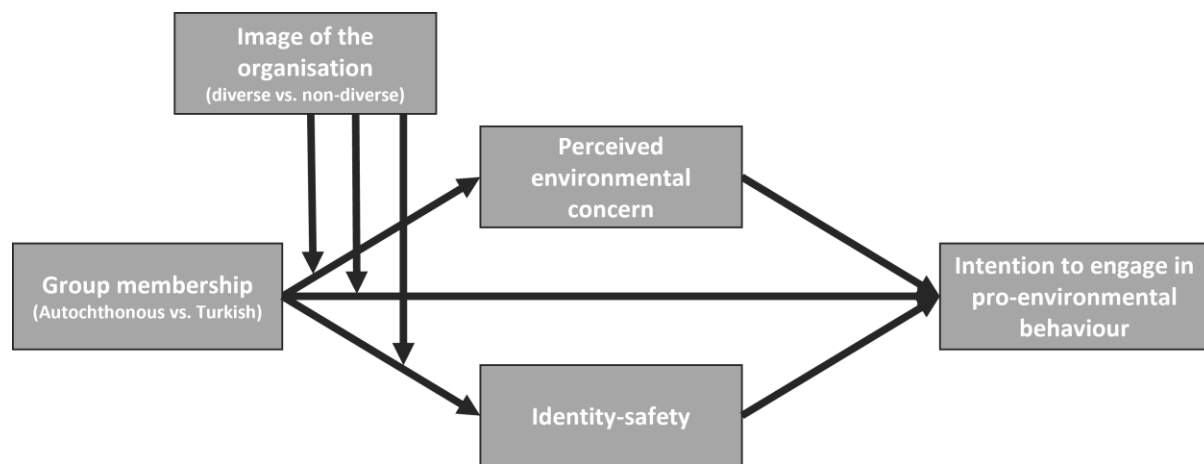
H4: The relationship between group membership (i.e., self-categorisation as either autochthonous or Turkish) and the intention to show pro-environmental behaviour is mediated by perceived EC and identity-safety and moderated by the presentation of an environmental organisation as diverse (vs. non-diverse).

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<sup>2</sup> Hypotheses H3a, H3b, and H3c slightly differ from the pre-registration.

**Figure 1**

*Model displaying the relationships between the different variables*



## Method

Methods and materials were adopted from Pearson et al. (2018) who generously provided all necessary information (unless otherwise noted). Materials were translated from English into German. The study was approved by the ethics committee of the University of Groningen and has been pre-registered on AsPredicted ([https://aspredicted.org/see\\_one.php](https://aspredicted.org/see_one.php)) prior to the start of the data collection.

## Participants

G\*Power analysis prior to the study indicated a sample size of 245 participants obtaining a power of  $1-\beta=0.80$  ( $\alpha=.05$ ). Based on the findings by Pearson et al. (2018) and Burrows et al. (2022) an effect size of  $f=.18$  was assumed. As the experiment contains two conditions that require the same number of participants, the sample size was adapted to 246 with 123 participants in the autochthonous subsample and 123 participants in the Turkish subsample.

The autochthonous subsample was recruited via SONA system, a pool consisting exclusively of psychology students at the Leuphana University Lüneburg in Germany, and personal contacts. Participants that completed the study via SONA system received 0.25

study credits. The sample of people who self-categorise as having a Turkish background living in Germany was recruited via the access panel provider Bilendi Respondi<sup>3</sup>. Participants recruited by Bilendi Respondi were paid by the provider, likewise Bilendi Respondi was paid for their services. All participants were recruited on a voluntary basis.

In total  $N= 608$  participants (autochthonous:  $n= 394$ , Turkish:  $n= 168$ , other:  $n= 46$ ) were recruited who finished the survey. Participants were excluded based on the preregistered exclusion criteria. A detailed explanation of the exclusion criteria can be found in Appendix A. After the exclusion the final sample size resulted in  $n= 306$  participants. All analysis were conducted with and without participants excluded based on the treatment check.

The study consisted of a 2 (group membership: autochthonous vs. Turkish) x 2 (image: ethnically diverse vs. ethnically non-diverse) between subject design (autochthonous/ethnically diverse image:  $n= 158$ ; autochthonous/ethnically non-diverse image:  $n= 65$ ; Turkish/ethnically diverse image:  $n= 53$ ; Turkish/ethnically non-diverse image:  $n= 30$ ). The demographics of the sample are displayed in Table A1 in Appendix A.

## **Procedure**

The study was conducted as an online experiment via LimeSurvey and was advertised as investigating the perception of environmental organisations. Participants were told that they would randomly be presented with one of two descriptions of a fictive environmental organisation and that they would be asked about their perception and opinions on the presented organisation. Based on this information, participants were requested to give their informed consent. As a first part of the study, participants were asked to answer two items about their personal EC and whether they associated themselves with the term environmentalist. Afterwards, they were randomly assigned to either the diverse or non-

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<sup>3</sup> Due to a broad recruitment strategy, the Bilendi Respondi sample unexpectedly also included a substantial number ( $n= 296$ ) of autochthonous participants which were included in the analysis as well.

diverse condition. In both conditions participants were presented with two pictures that displayed screenshots of the website of the fictive environmental organisation “Protect the Planet”. The first screenshot introduced the organisation, the second provided an overview of the members active in the organisation through pictures next to their names and a short description of their role in the organisation. In the diverse condition, phrases like “diverse team” and “people from different backgrounds” were used to describe the organisation. Additionally, the screenshots showed a button in the top right corner that suggested that the language could be changed. The pictures of the members as well as the names indicated that the organisation consisted of people of diverse ethnic backgrounds, ages, and gender, including people with a Turkish background. The screenshots can be found in Appendix B. In the non-diverse condition, the description missed out on words like “diverse”, the screenshot introducing the team displayed people and names that can be perceived as autochthonous, and a button to change the language was not included. This operationalisation was closely modelled after Pearson et al. (2018). It differed from the presentation used by Pearson et al. (2018) in that two separate screenshots of the organisation were presented, a button indicating the option to change the language was included, and the members of the organisation were individually presented through portrait photos instead of in a group picture. Furthermore, the operationalisation deviated in that pictures of the organisation’s members were presented in the diverse as well as in the non-diverse condition, while Pearson et al. (2018) only included a picture in the diverse condition.

Afterwards, participants were asked to answer questions about their feelings of identity-safety concerning the presented organisation, perceived EC of different social groups and whether they associated different subgroups with the term environmentalist. Furthermore, they were asked about their intentions to join an environmental organisation in general, the presented environmental organisation, and to show pro-environmental behaviours. After, they



were asked to complete a treatment check where they indicated if the members of the presented organisation had diverse ethnical backgrounds and what their backgrounds were. Lastly, participants were asked about their demographics including items on their ethnic identity. The questionnaire concluded by thanking the participants for their help, a short debriefing, and the option to withdraw their data.

## **Measures**

In the following all measures relevant for testing the stated hypotheses will be explained. Further information on additional measures (participants self-association with environmentalists, the association of different social groups with the term environmentalist, and participants identification with their ethnic group) that were included to ensure comparability with the study by Pearson et al. (2018) but not used for testing the hypotheses, can be found in Appendix C.

### ***Personal Concern***

To assess participants personal EC an item by Pearson et al. (2018) was used, asking participants on a 5-point Likert scale (1- not at all concern to 5 – extremely concern) how concerned they are about the state of the natural environment.

### ***Perceived Identity-Safety***

The findings by Pearson et al. (2018) were extended by including perceived identity-safety as a second, novel mediator. Perceived identity-safety was operationalised according to Burrows et al. (2022). The 10 items measured feelings of belonging (e.g., People at Protect the Planet would be a lot like me), trust and comfort (e.g., I think I could ‘be myself’ at Protect the Planet). The items were measured on a 5-point Likert scale (1 – strongly disagree to 5 – strongly agree). For each participant, composite scores were created by averaging across the corresponding items (Cronbach’s  $\alpha = .92$ ).

### ***Perceived Environmental Concern***

Perceived EC was measured according to Pearson et al. (2018). For each different subgroup participants were asked how they perceive this group's EC on a 5-point Likert scale (1- not at all concern to 5 – extremely concern). The subgroups included different ethnic groups, ages, genders, and wealth and were presented each on a different page and in randomized order. This aimed to avoid order effects and reduce biases.

### ***Intention to engage in pro-environmental behaviour***

Participants intention to engage in pro-environmental behaviour consisted of three dimensions: intention to join an environmental organisation in general, intention to join the presented environmental organisation Protect the Planet, and intention to show general pro-environmental behaviour. Items assessing intentions to join a general environmental organisation (e.g., I generally feel positively toward organisations that work on environmental issues) as well as the presented organisation (e.g., I would be willing to volunteer my time for an organisation like Protect the Planet) were adapted from Pearson et al. (2018). The five items were phrased identically and only the reference to either a general organisation or Protect the Planet was changed. To measure intentions to perform general pro-environmental behaviour three items on Willingness to Sacrifice (e.g., I would be willing to pay much higher prices in order to protect the environment) by Stern et al. (1999) as well as three items on green behaviour intentions (e.g., I intend to engage in environmentally friendly behaviour in the forthcoming month) by Mancha and Yoder (2015) were used. All items to measure the outcome variable intention to engage in pro-environmental behaviour were assessed on a 5-point Likert scale (1 – strongly disagree to 5 – strongly agree). For each participant, composite scores for intentions to join a general environmental organisation (Cronbach's  $\alpha = .87$ ), intentions to join Protect the Planet (Cronbach's  $\alpha = .89$ ), and intentions

for general pro-environmental behaviour (Cronbach's  $\alpha = .89$ ) were created by averaging across the corresponding items.

### ***Treatment Check***

To assess whether the manipulation in form of the diverse or non-diverse presentation of the organisation worked, a treatment check was included in the questionnaire. The treatment check was based on the items by Pearson et al. (2018), asking the participants whether the organisation they had been presented with was ethnically diverse (1 – Yes, 2 – No, 3 – I don't know) and which ethnicity the members of the organisation had. Therefore, a selection between autochthonous and the four largest ethnic minority groups in Germany, including Turkish background (Bundeszentrale für politische Bildung, 2022) was given. Participants could select one or more of the presented ethnicities or fill in another ethnic group.

### ***Group Membership***

Participants self-categorisation as member of an ethnic group was enquired as part of the demographics. Therefore, participants were asked as which ethnic group they would self-categorise. As for the treatment check, a selection between autochthonous and the four largest ethnic minority groups, including Turkish background, in Germany (Bundeszentrale für politische Bildung, 2022) was given. Participants could select one or more of the stated ethnic groups or choose the answer "other" and fill in their ethnicity.

## **Results**

### **Preliminary Analyses**

#### ***Descriptive Statistics and Correlations***

Prior to the main analyses, the descriptive statistics and correlations of the study variables (group membership, perceived EC of autochthonous and Turkish people, perceived identity-safety, intentions to join a general environmental organisation, intentions to join

Protect the Planet, intentions for general pro-environmental behaviour, the organisational image i.e., the condition) were calculated. Table 1 shows correlations and descriptive statistics between the variables across all participants. Correlations and descriptive statistics within the diverse and non-diverse condition are displayed in Table 2. Group membership was coded 1 (autochthonous self-categorisation) and 2 (Turkish self-categorisation), the organisational image was coded 1 (diverse organisational image) and 2 (non-diverse organisational image).

**Table 1**

*Correlations of Study Variables Across All Participants*

Variable	1	2	3	4	5	6	7	8
1. Group Membership <sup>a</sup>	--							
2. Perceived EC of autochthonous people	-.08	--						
3. Perceived EC of Turkish people	.04	.48****	--					
4. Perceived Identity-Safety	.09	.17**	.32****	--				
5. Intentions to join an env. organisation	-.01	.18**	.38****	.64****	--			
6. Intentions to join Protect the Planet	.09	.21****	.40****	.76****	.83****	--		
7. Intentions for PEB	-.12*	.19**	.37****	.57****	.73****	.67****	--	
8. Image of the organisation <sup>a</sup> (condition)	.07	-.05	-.06	-.05	-.02	-.05	-.01	--
<i>M</i>	--	2.95	2.53	3.53	3.12	2.91	3.25	--
<i>SD</i>	--	0.89	1.04	0.85	1.02	1.00	1.00	--

*Note.* Group membership was coded 1 (autochthonous self-categorisation) and 2 (Turkish self-categorisation). Organisational image was coded 1 (ethnically diverse condition) and 2 (ethnically non-diverse condition).

<sup>a</sup> Correlation coefficients involving these variables are point-biserial correlation coefficients.

All remaining correlation coefficients are Pearson's product-moment correlation coefficients.

\*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$

**Table 2**

*Correlations of Study Variables Within the Diverse and Non-diverse Condition*

Variable	1	2	3	4	5	6	7
1. Group Membership <sup>a</sup>	--	-.06	.05	.13	-.03	.09	-.12
2. Perceived EC of autochthonous people	-.12	--	.53***	.19**	.22**	.27***	.25***
3. Perceived EC of Turkish people	.01	.33**	--	.36***	.43***	.45***	.41***
4. Perceived Identity-Safety	.17	.09	.21*	--	.66***	.78***	.57***
5. Intentions to join an env. organisation	.05	.10	.27**	.60***	--	.85***	.73***
6. Intentions to join Protect the Planet	.11	.06	.29**	.70***	.77***	--	.67***
7. Intentions for PEB	-.13	.02	.29**	.55***	.72***	.67***	--
Diverse Organisational Image							
<i>M</i>		2.98	2.57	3.56	3.13	2.94	3.26
<i>SD</i>		0.92	1.07	0.88	1.00	1.01	1.02
Non-diverse Organisational Image							
<i>M</i>		2.88	2.43	3.47	3.09	2.83	3.23
<i>SD</i>		0.84	0.98	0.80	1.07	0.97	0.95

*Note.* Table displays variable correlations within the different conditions. Correlations of variables within the diverse condition are displayed above the diagonal and for the non-diverse condition below the diagonal. Group membership was coded 1 (autochthonous self-categorisation) and 2 (Turkish self-categorisation).

<sup>a</sup> Correlation coefficients involving this variable are point-biserial correlation coefficients. All remaining correlation coefficients are Pearson's product-moment correlation coefficients.

\*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$

### ***Treatment check***

Prior to excluding participants that did not pass the treatment check, a chi-square test was conducted to compare the condition to which participants were allocated (diverse vs. non-diverse) and their perception of the organisation as either diverse or non-diverse. The chi-square test was conducted with  $n = 398$  participants (diverse:  $n = 218$ , non-diverse:  $n = 180$ ), excluding participants that didn't pass the check for attention and sincerity, did not self-categorise as autochthonous or Turkish as well as participants that chose 'I don't know' when asked about the diversity of the organisation. No expected cell frequencies were below 5. Results showed a significant relationship between the condition and the perception of the organisation as diverse or non-diverse,  $\chi^2(1) = 127.09$ ,  $p < .001$ ,  $\phi = 0.57$ . In the ethnically diverse condition,  $n = 211$  participants perceived the organisation as diverse and  $n = 7$  as non-diverse. In the non-diverse condition,  $n = 85$  participants indicated that they perceived the organisation as diverse and  $n = 95$  as non-diverse.

### ***Personal concern***

Independent sample  $t$ -tests were conducted to identify the effects of the independent variable group membership (autochthonous vs. Turkish) on the dependent variable personal concern. The independent sample  $t$ -test showed a significant difference in the personal

concern between autochthonous and Turkish participants, with autochthonous people ( $M = 3.72$ ;  $SD = 1.08$ ) reporting higher levels of concern than Turkish people ( $M = 3.17$ ;  $SD = 1.17$ ),  $t(304) = 3.87$ ,  $p < .001$ ,  $d = .50$ .

## Main Analyses

### *Perceived environmental concern*

To assess participants' precision in estimating the EC of autochthonous and Turkish people an accuracy index for each participant was calculated by subtracting the average self-reported concern of a group from a respondent's perceived EC of the group. A separate accuracy index was calculated for each of the two groups (autochthonous and Turkish). These indices were entered as the outcome variable in separate linear regressions models without a predictor. Intercept tests in these analyses showed whether the perceptions significantly differed from zero. An overestimation of the groups EC was indicated by positive scores, negative scores suggested an underestimation.

Across all participants, EC of autochthonous people ( $t(302) = -15.05$ ,  $p < .001$ ) as well as Turkish people ( $t(299) = -10.69$ ,  $p < .001$ ) was significantly underestimated. Results indicated that the underestimation of autochthonous people's EC was greater than of Turkish people (see Table 1 for means and standard deviation). Running analyses in subsamples of autochthonous and Turkish participants revealed a similar pattern. As expected, the perceived EC of Turkish people was underestimated by autochthonous people ( $t(217) = -9.57$ ,  $p < .001$ ) as well as Turkish people ( $t(81) = -4.87$ ,  $p < .001$ ). Other than hypothesised, both autochthonous people ( $t(219) = -12.02$ ,  $p < .001$ ) as well as Turkish people ( $t(82) = -8.91$ ,  $p < .001$ ) also underestimated the EC of autochthonous people. When group membership was included in the model as a predictor, no significant effect of group membership on the underestimation of autochthonous ( $F(1, 301) = 1.93$ ,  $p = .166$ ) or Turkish people's ( $F(1, 298) = .36$ ,  $p = .551$ ) EC was found.

After, a difference score was calculated to investigate whether the EC of autochthonous or Turkish people was perceived as higher. This difference score was calculated by subtracting perceived EC of autochthonous people from perceived EC of Turkish people. Positive scores indicated that the EC of Turkish people was perceived as higher than the EC of autochthonous people, negative scores indicated a higher perception of autochthonous people's EC. As expected, the intercept test of the linear regression model indicated that across all participants the EC of autochthonous people was perceived as being significantly higher than the EC of Turkish people ( $t(297) = -7.50, p < .001$ ). These results could be found for the subsample of autochthonous people ( $t(215) = -7.99, p < .001$ ) as well as Turkish people ( $t(81) = -1.99, p = .05$ ). Including group membership as a predictor variable in the model revealed no significant effect of group membership on the perception of autochthonous people having a higher EC than Turkish people ( $F(1, 296) = 3.59, p = .059$ ).

#### ***Moderation effect of a diverse image of the organisation***

To test the moderation effect of a diverse vs. non-diverse image of the organisation, separate moderation analyses using PROCESS macro by Hayes (2022) model 1 were performed. In the model, group membership served as the predictor, the organisational image (i.e., either a diverse or a non-diverse presentation of the organisation Protect the Planet) as the moderator and each of the three dimension of the outcome variable intention to engage in pro-environmental behaviour (intention to join an environmental organisation in general, intention to join the presented organisation, intentions to show general pro-environmental behaviour), as well as perceived EC, and perceived identity-safety as the criteria. As can be seen in Table 3, there were no significant main effects of group membership or the organisational image on neither of the criteria. Other than hypothesised, the organisational image did not moderate the effect of group membership on the three dimensions of intentions to engage in pro-environmental behaviour, perceived EC, and perceived identity-safety.



Including age, gender, income, education, and political ideology as covariates into the model did not lead to any substantial changes in the results and did not result in a significant moderation effect of the organisational image on none of the criteria.

As the results indicated no significant moderation effects on any of the two assumed mediators (perceived EC of autochthonous and Turkish people and identity-safety), no further analyses testing the assumed moderated mediation were conducted.

**Table 3**

*Results Moderated Regression Analyses With a Target's Group Membership as Predictor*

Criterion variable: Intention to join an environmental organisation in general				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Group Membership (G)	-0.27	0.40	-0.67	.503
Organisational Image (O)	-0.27	0.38	-0.72	.474
G × O	0.19	0.28	0.67	.502
Overall $R^2 = .002$ , $F(3, 300) = .18$ , $p = .912$				
Criterion variable: Intention to join Protect the Planet				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Group Membership (G)	0.17	0.39	0.45	.654
Organisational Image (O)	-0.16	0.37	-0.42	.673
G × O	0.03	0.27	0.11	.914
Overall $R^2 = .01$ , $F(3, 299) = 1.16$ , $p = .326$				
Criterion variable: Intention to show general pro-environmental behaviour				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Group Membership (G)	-0.30	0.38	-0.78	.435
Organisational Image (O)	-0.03	0.37	-0.09	.926
G × O	0.02	0.27	0.06	.948
Overall $R^2 = .02$ , $F(3, 301) = 1.58$ , $p = .195$				
Criterion variable: Perceived EC of autochthonous people				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Group Membership (G)	-0.02	0.35	-0.05	.957

Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Organisational Image (O)	0.05	0.33	0.14	.885
G × O	-0.10	0.24	-0.41	.679
Overall $R^2 = .01$ , $F(3, 299) = .88$ , $p = .451$				
Criterion variable: Perceived EC of Turkish people				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Group Membership (G)	0.23	0.41	0.57	.572
Organisational Image (O)	-0.002	0.39	-0.004	.997
G × O	-0.12	0.29	-0.37	.715
Overall $R^2 = .01$ , $F(3, 296) = .53$ , $p = .660$				
Criterion variable: Perceived identity-safety				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Group Membership (G)	0.50	0.33	1.49	.138
Organisational Image (O)	0.20	0.32	0.63	.530
G × O	-0.23	0.23	-1.002	.317
Overall $R^2 = .01$ , $F(3, 291) = 1.46$ , $p = .226$				

*Note.* Group membership was coded 1 (autochthonous self-categorisation) and 2 (Turkish self-categorisation). Organisational image was coded 1 (ethnically diverse condition) and 2 (ethnically non-diverse condition).

## Additional analyses

### *Explorative data analyses*

As the moderation analyses did not indicate any significant effects, it was refrained from performing a moderated mediation analysis. Instead, the data was analysed exploratively. As perceived identity-safety impacts people of ethnic minorities more than people of ethnic majorities (Purdie-Vaughns, 2004) and their in-group identification is greater than from people of majority groups (Schmitt & Branscombe, 2002), perceived EC of one's in-group and perceived identity-safety might be stronger predictors of intention to engage in pro-environmental behaviour for Turkish people than for autochthonous. To investigate

possible effects of group membership, separate moderation analyses using model 1 by PROCESS macro (Hayes, 2022) were performed. Perceived identity-safety, perceived EC of autochthonous people, and perceived EC of Turkish people served as the predictors, intentions to join an environmental organisation in general, intentions to join Protect the Planet, and intentions for general pro-environmental behaviour as the criteria, and group membership as the moderator. All results can be found in Appendix D. The moderator analyses with perceived identity-safety as the predictor (Table D1) showed a significant main effect on intentions to join an environmental organisation in general ( $B= 0.97, p < .001$ ), intentions to join Protect the Planet ( $B= 1.07, p < .001$ ), and intentions to show general pro-environmental behaviour ( $B= 0.83, p < .001$ ). The predictor perceived EC of autochthonous people (Table D2) showed a significant main effect on intentions to join Protect the Planet ( $B= 0.44, p = .021$ ), and intentions to show general pro-environmental behaviour ( $B= 0.44, p = .023$ ). Lastly, including perceived EC of Turkish people as the predictor (Table D3), showed a main effect on intentions to join an environmental organisation in general ( $B= .35, p = .029$ ), intentions to join Protect the Planet ( $B= .46, p = .003$ ), and intentions to show general pro-environmental behaviour ( $B= .32, p = .035$ ). For group membership, no main effects on neither of the criteria were found. Additionally, no moderation effects of group membership for none of the relationships between predictor and criterion were found.

### *Analyses in the larger sample*

Even though the treatment check indicated that the organisation was perceived differently depending on the organisational image participants were presented with, a substantial number of participants were excluded from the analysis because they did not pass the treatment check. In the diverse condition,  $n= 211$  participants correctly perceived the organisation as diverse and  $n= 7$  as non-diverse. In the non-diverse condition,  $n= 95$  participants correctly perceived the organisation as non-diverse, while  $n= 85$  participants

perceived the organisation as diverse. One explanation may be that this was a result of the common stereotype that environmentalism is mostly associated with ethnic majorities (Gibson-Wood & Wakefield, 2013; Pearson et al., 2018). It seems possible that because the ethnically non-diverse presentation of Protect the Planet reproduces this stereotype and presents an expected picture, participants paid less or even no attention to the ethnicity of the organisation's members. Contrary, in the diverse condition the breaking of this stereotype may have led participants to focusing more on the member's ethnicity and therefore, remembering it better (Summerfield & Egnor, 2009). Therefore, all analyses were also calculated including participants that did not pass the treatment check ( $n= 467$ ). In the following only results that differ from the results presented above and provide new insights, will be reported.

For the underestimation of the perceived EC of autochthonous people, no new results were found. In line with the results presented above, both autochthonous ( $t(348) = -15.75, p < .001$ ) and Turkish people ( $t(110) = -6.09, p < .001$ ) underestimated the EC of Turkish people. Additionally, when adding group membership as an independent variable to the model, it was found to significantly predict this underestimation ( $F(1, 458) = 4.50, p = .034$ ). For the difference of perceived the EC of Turkish people compared to autochthonous people, results calculated across all participants and in the autochthonous subsample were similar to the results presented above. Contrary, within the Turkish subsample the perception of autochthonous people's EC as higher than of Turkish people was not significant ( $t(110) = -1.73, p = .086$ ). Group membership was found to significantly predict this effect when included in the model ( $F(1, 456) = 7.92, p = .005$ ).

When calculating the moderation analysis for the effect of group membership and the moderator condition on the intention to join Protect the Planet, the overall model was found to be significant ( $F(3, 459) = 3.07, p = .03$ ) predicting 1.66% of the variance. However, no

significant moderation effect of the condition on the relationship between group membership and the intention to join Protect the Planet was found. No new results were found for intentions to join an environmental organisation in general, intentions for pro-environmental behaviour, perceived EC, and perceived identity-safety. When age, gender, income, education, and political ideology were included into the model as covariates, no new results were found.

### **Discussion**

The aim of the present paper was to investigate how an ethnically diverse vs. non-diverse image of environmental organisation influences autochthonous and Turkish people's intentions for pro-environmental behaviour. To answer this question the study by Pearson et al. (2018) was partially replicated and extended in a Germany context.

In line with the findings by Pearson et al. (2018), results show that both autochthonous and Turkish people perceive the EC of Turkish people as lower than it is in fact. This underestimation could be found across all participants as well as within the subsamples of Turkish and autochthonous people, supporting H1a. In contrast to the findings by Pearson et al. (2018), results indicate that autochthonous and Turkish people do not over- but *underestimate* the EC of autochthonous people as well, rejecting H1b. Even though the findings cannot directly be explained by the data, the results suggests an, although unexpected, pattern of pluralistic ignorance (Leviston et al., 2013). Findings indicate that the self-reported EC of autochthonous people was higher than the group's EC was perceived. The tendency of rating other's environmentalism as lower than one's own has been found in different contexts, such as the underestimation of other's biospheric values (Bouman et al., 2020) or pro-environmental behaviours (Bergquist, 2020). The overestimation of autochthonous people's own EC might follow a similar pattern and could be the consequence of a better-than-average-effect within the subsample of autochthonous people (Alicke &

Govorun, 2005; Bergquist, 2020). For the perception of Turkish people's EC compared to autochthonous people's EC, results within the sample of participants after exclusion based on the preregistered criteria could support H2. The findings indicate that across all participants, as well as in the subsamples of autochthonous and Turkish participants, the EC of autochthonous people was perceived as being higher than the EC of Turkish people. These results are in line with the findings by Pearson et al. (2018). Analogous analyses in the larger sample, including participants that did not pass the treatment check, showed that only autochthonous people perceived the EC of autochthonous people as higher than the EC of Turkish people, while Turkish people did not perceive the EC of autochthonous and Turkish people as significantly different. Thus, these additional findings suggest that whether a person self-categorised as Turkish or autochthonous significantly influenced their perception of Turkish people's EC compared to autochthonous people's EC. These findings are also interesting regarding the self-reported EC of autochthonous and Turkish people. Surprisingly and contrary to other research on the EC of ethnic minorities and majorities (Ballew et al., 2019; Matthew Whittaker et al., 2005; Pearson et al., 2018), results indicated that the personal EC of autochthonous people is in fact higher than of Turkish people. Respectively, autochthonous people's perception that the EC of Turkish people is lower than of autochthonous people matches the self-reported results. This unexpected finding cannot be explained by the present data and needs further research investigating perceived and experienced EC of both autochthonous and Turkish people to be explained.

The moderation analysis found no significant effect of the diverse vs. non-diverse image of an organisation as the moderator on the relation between group membership and intentions to engage in pro-environmental behaviour, perceived EC, and perceived identity-safety. Hence, no support for H3a, H3b, and H3c was found. Based on the non-significant results of the moderation analysis, there were no indications for a hypothesised moderated

mediation and H4 was rejected. One possible explanation for the non-significant moderation effect is that a substantial proportion of participants was not able to correctly identify the ethnic diversity of the organisation. Even though, Protect the Planet was perceived as more diverse in the diverse condition than the non-diverse condition, participants in the non-diverse condition often rated the organisation as ethnically diverse. In the diverse condition, the organisation was mostly rated as ethnically diverse and only few participants perceived the organisation as non-diverse. In the non-diverse condition, the incorrect perception of the organisation as diverse could be either because the organisation's members were still perceived as ethnically diverse or because the diversity in age and gender led to a spill over effect. It has been found that identity-safety cues can transfer and that White women also experienced high feelings of identity-safety in an organisation that consisted of few women but had a high ethnic diversity (Chaney et al., 2016). It is possible that a similar effect also occurred in the perception of diversity which led people in the non-diverse condition to perceive the organisation as ethnically diverse due to the diversity in age and gender. Further, as the EC of both autochthonous and Turkish people was underestimated by members of the respective group, this underestimation might not be a consequence of (mis)perceptions of ethnic groups and may therefore not be influenced by a diverse presentation of an organisation.

The explorative analyses of the data indicated that perceived identity-safety and perceived EC of autochthonous and Turkish people had a main effect on most of the dimensions of intentions for pro-environmental behaviour. Even though there was no evidence of a moderating effect of group membership on these relations, the findings support existing research on the relevance of identity-safety, perceived EC, and in the broader sense perceived norms for pro-environmental behavioural intentions (Burrows et al., 2022; Masson & Fritsche, 2021; Pearson et al., 2018). The non-significant moderation effect of group

membership is surprising especially regarding the relationship between perceived identity-safety and intentions for pro-environmental behaviour, as it seems likely that autochthonous people, as an ethnic majority in Germany, and Turkish people, as an ethnic minority, experience different levels of identity-safety and identity-threat in daily life (Derricks et al., 2023). A possible explanation might be that against prior expectations, Turkish people and autochthonous people generally experience similar levels of identity-safety and thus, group membership did not impact the influence of perceived identity-safety on pro-environmental behavioural intentions. Based on the presented data no statements about participants general levels of identity-safety prior to the manipulation through the organisational image can be made. Future research should investigate the role of identity-safety for Turkish as well as autochthonous people further to better understand its impacts.

This study is not without limitations. First, even though the diverse and non-diverse presentation of the organisation was closely modelled after the operationalisation used by Pearson et al. (2018) it differed in some aspects (see chapter Procedure) and was not thoroughly pre-tested prior to the start of the data collection. Although the treatment check showed a significant relationship between the organisational image and the rating of diversity in the organisation, the frequencies also suggested that the organisation was often perceived as ethnically diverse in the non-diverse condition. This led to an exclusion of a substantial number of participants in the non-diverse condition which is why the sample size in the diverse and non-diverse condition differed greatly. Future research should ensure that the non-diverse condition is presented even more clearly as autochthonous. This might be achieved by describing the organisation as consisting of a homogenous group of people and choosing pictures that depict people with even more stereotypically German attributes. Second, it cannot be ruled out that participants' answers were affected by social desirability bias as environmental issues are a topic where a general idea of what is socially desired and



accepted exists (Grimm, 2010; Vesely & Klöckner, 2020). Therefore, social desirability may have especially affected participants answers and consequently the findings on intentions to engage in pro-environmental behaviour. Lastly, it should be noted that, other than the findings of Pearson et al. (2018), the data is not representative and might therefore not reflect assumptions of the population in Germany.

Future research is needed to better understand the influence of perceived EC and identity-safety for pro-environmental behavioural intentions. Based on the findings of this study it might be worthwhile to more closely investigate the role of identity-safety, how it can be enhanced, and it's relevance for different social groups (Burrows et al., 2022; Chaney et al., 2016; Purdie-Vaughns, 2004) as it was found to be a promising predictor of pro-environmental behavioural intentions. Additionally, a special focus may be put on perceived EC of Turkish and autochthonous people and the underlying factors that may had led to perceived EC having a significant effect on pro-environmental behavioural intentions. The systematic differentiation between perceived EC and identity-safety is a novel approach to understand pro-environmental behavioural intentions and provides researchers with new insights into this topic. Even though, there were no indications of moderated mediation effects, the results highlight the role of perceived EC and identity-safety for pro-environmental behaviour intentions, two factors that should also be considered by policymakers and environmental organisations when communicating environmental issues. However, further research is needed to draw concrete practical implications.

### **Conclusion**

In sum, the present study shows that both the EC of autochthonous and Turkish people in Germany is underestimated compared to the group's self-reported EC. Further, the perception that the EC of autochthonous people is higher than the EC of Turkish people may depend on the individual group-membership. No support for the influence of perceived EC

and identity-safety and the impact of an ethnically diverse presentation of an organisation on the relationship between group-membership and pro-environmental behavioural intentions could be found. However, the findings provide new insights into the importance of identity-safety and perceived EC for the intentions to engage in pro-environmental behaviour. No matter an individual's ethnic background, higher levels of identity-safety and perceived EC seem to influence a person's intentions for pro-environmental behaviour. These results provide new insights for researchers and policymakers to consider when motivating pro-environmental behaviour.

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## Appendix A

### Further descriptions of the sample

#### Description of the exclusion criteria

Participants were excluded if they met one or more of the preregistered exclusion criteria. The criteria based on which participants were excluded were attention check, treatment check, sincerity, self-categorisation, and data withdrawal.

Within the items on the intention to join the presented organisation Protect the Planet, an item asking participants to select a specific answer was included. Participants who did not choose the correct answer for this attention check were excluded from the analysis ( $n= 81$ ). After being presented with the either diverse or non-diverse image of the organisation and answering the items on the perceived environmental concern, identity-safety, and intention to engage in pro-environmental behaviour, participants were presented with a treatment check. They were asked to indicate whether the organisation they had seen consisted of members of diverse ethnic backgrounds. Participants who failed the treatment check depending on the condition they were allocated to (i.e., selecting non-diverse in the diverse condition and vice versa or choosing the option “I don’t know”) were excluded from the analysis (diverse condition:  $n= 34$ , non-diverse condition:  $n= 191$ ). Additionally, indicating they did not take the study seriously ( $n= 3$ ), and self-categorising as neither autochthonous nor Turkish, also resulted in an exclusion of the participant for the purpose of this study. People who self-categorised as autochthonous and Turkish were excluded as well because it was not possible to clearly assign them to a group membership. Participants who identified as Turkish and another ethnic minority were not excluded, while participants who self-categorised as autochthonous and selected a second minority group membership were excluded as well. This procedure was chosen as the research and hypotheses in the present paper follow the idea of Pearson et al. (2018) that people of ethnic minorities are perceived differently than people of

ethnic majorities. Thus, it was necessary to be able to clearly assign people to either an ethnic majority (i.e., autochthonous) or minority group (i.e., Turkish). Based on the criterion of self-categorisation  $n= 46$  participants were excluded.

At the end of the survey, after receiving a debriefing, participants were asked whether they want to withdraw their data. Participants who chose to withdraw their data were excluded from all analysis. Based on this criterion  $n= 15$  participants were excluded.

Of the  $N= 608$  participants that completed the questionnaire some failed on more than one criterion. In total,  $n= 302$  participants were excluded, resulting in a final sample size of  $n= 306$ .

**Table A1**

*Table displaying the sample demographics*

Variable	N of valid cases (%)		
	Across all participants	Autochthonous	Turkish
<b>Group Membership</b>			
Autochthonous	223 (72.9)		
Turkish	83 (27.1)		
<b>Gender</b>			
Female	154 (50.5)	113 (50.9)	41 (49.4)
Male	148 (48.5)	106 (47.7)	42 (50.6)
Diverse	3 (1.0)	3 (1.4)	0 (0.0)
<b>Income</b>			
<1,360€	114 (37.4)	95 (42.8)	19 (22.9)
1,360€ - 1,810€	43 (14.1)	27 (12.2)	16 (19.3)

1,810€ - 3,400€	102 (33.4)	66 (29.7)	36 (43.3)
3,400€ - 5,660€	35 (11.5)	26 (11.7)	9 (10.8)
>5,660€	11 (3.6)	8 (3.6)	3 (3.6)
<b>Occupation</b>			
Student	86 (28.5)	70 (31.5)	16 (20.0)
Apprentice	2 (0.7)	1 (0.5)	1 (1.3)
Pupil	2 (0.7)	0 (0.0)	2 (2.5)
Employee	122 (40.4)	75 (33.8)	47 (58.8)
Other	90 (29.8)	76 (34.2)	14 (17.5)
<b>Educational Attainment</b>			
Secondary School ("Hauptschule")	18 (6.0)	10 (4.5)	8 (10.0)
Secondary Modern ("Realschule")	59 (19.5)	45 (20.3)	14 (17.5)
A Levels ("Abitur")	116 (38.4)	82 (36.9)	34 (42.5)
Bachelor	49 (16.2)	34 (15.3)	15 (18.8)
Masters	15 (5.0)	13 (5.9)	2 (2.5)
PhD	6 (2.0)	4 (1.8)	2 (2.5)
Licentiate Degree	35 (11.6)	31 (14.0)	4 (5.0)
Other	4 (1.3)	3 (1.4)	1 (1.3)
Political Orientation <i>M (SD)</i> (1 – "left wing", 10 – "right wing")	4.63 (2.08)	4.63 (2.01)	4.63 (2.27)
Age <i>M (SD)</i>	42.58 (18.19)	44.51 (19.32)	37.39 (13.51)

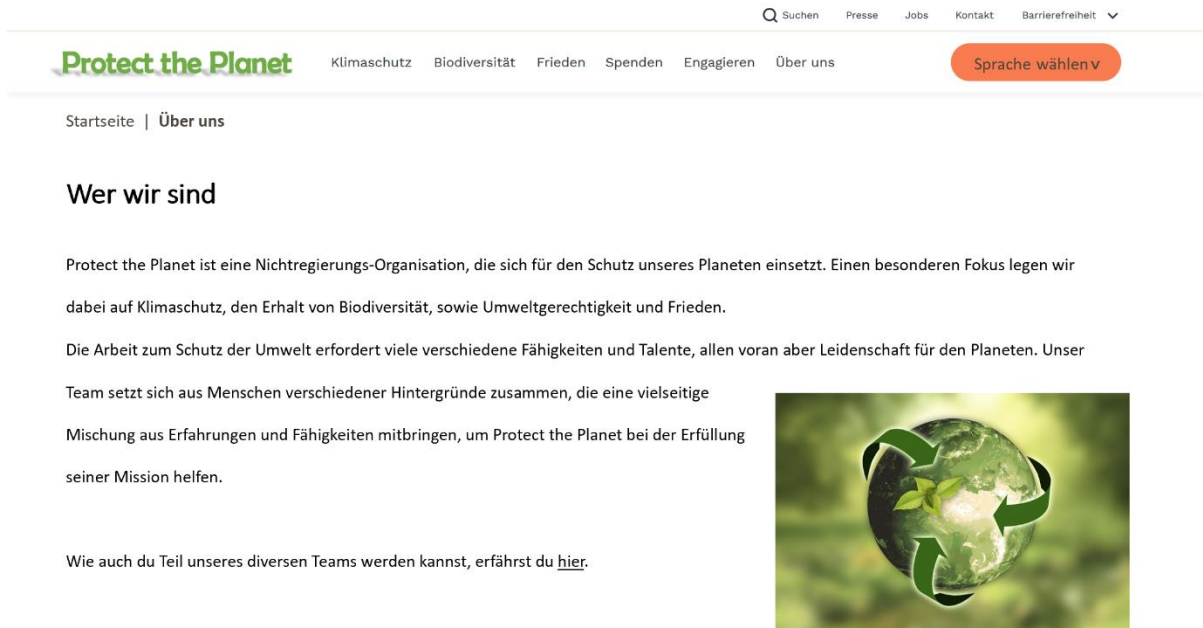
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## Appendix B

### Diverse and non-diverse image of the organisation “Protect the Planet”

Figure A1

*Diverse Condition: Description of the organisation*



Suchen Presse Jobs Kontakt Barrierefreiheit

Protect the Planet Klimaschutz Biodiversität Frieden Spenden Engagieren Über uns Sprache wählen

Startseite | Über uns

### Wer wir sind

Protect the Planet ist eine Nichtregierungs-Organisation, die sich für den Schutz unseres Planeten einsetzt. Einen besonderen Fokus legen wir dabei auf Klimaschutz, den Erhalt von Biodiversität, sowie Umweltgerechtigkeit und Frieden.

Die Arbeit zum Schutz der Umwelt erfordert viele verschiedene Fähigkeiten und Talente, allen voran aber Leidenschaft für den Planeten. Unser Team setzt sich aus Menschen verschiedener Hintergründe zusammen, die eine vielseitige Mischung aus Erfahrungen und Fähigkeiten mitbringen, um Protect the Planet bei der Erfüllung seiner Mission helfen.

Wie auch du Teil unseres diversen Teams werden kannst, erfährst du [hier](#).


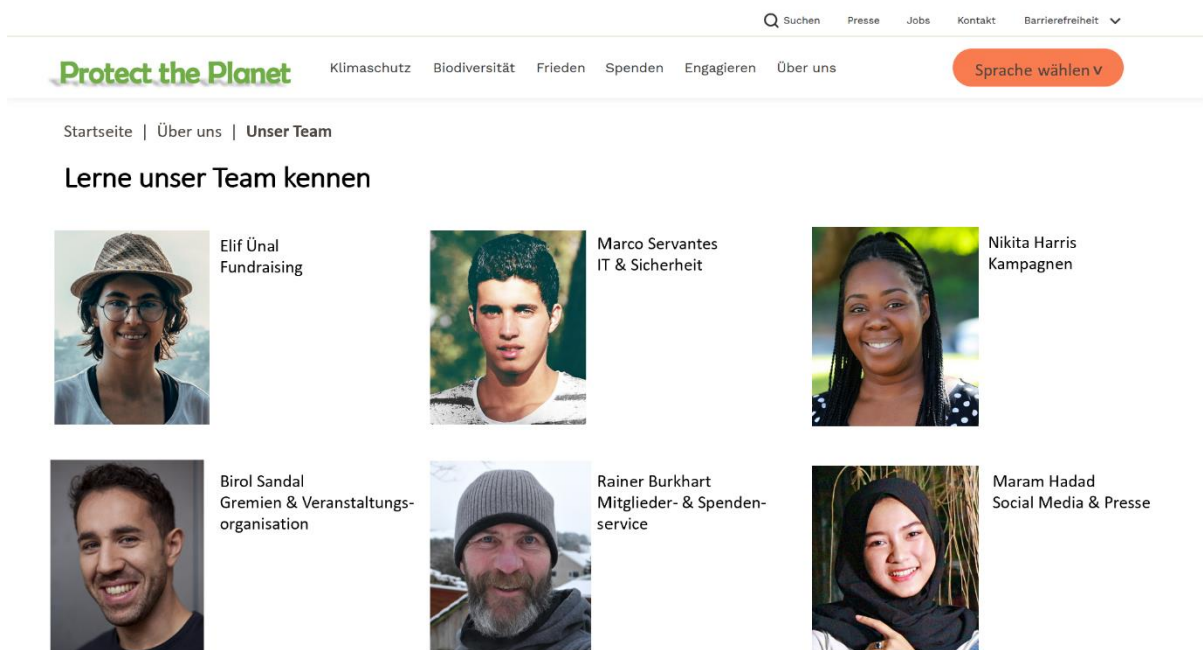


Figure A2

*Diverse Condition: Members of the organisation*









Suchen Presse Jobs Kontakt Barrierefreiheit

Protect the Planet Klimaschutz Biodiversität Frieden Spenden Engagieren Über uns Sprache wählen

Startseite | Über uns | Unser Team

### Lerne unser Team kennen

	Elif Ünal Fundraising		Marco Servantes IT & Sicherheit		Nikita Harris Kampagnen
	Birol Sandal Gremien & Veranstaltungs- organisation		Rainer Burkhart Mitglieder- & Spenden- service		Maram Hadad Social Media & Presse

## Figure A3

### *Non-diverse Condition: Description of the organisation*

Suchen Presse Jobs Kontakt Barrierefreiheit

**Protect the Planet** Klimaschutz Biodiversität Frieden Spenden Engagieren Über uns


Startseite | **Über uns**

### Wer wir sind

Protect the Planet ist eine Nichtregierungs-Organisation, die sich für den Schutz unseres Planeten einsetzt. Einen besonderen Fokus legen wir dabei auf Klimaschutz, den Erhalt von Biodiversität, sowie Umweltgerechtigkeit und Frieden.

Die Arbeit zum Schutz der Umwelt erfordert viele verschiedene Fähigkeiten und Talente, allen voran aber Leidenschaft für den Planeten. Unser Team setzt sich aus Menschen zusammen, die sich gut ergänzende Erfahrungen und Fähigkeiten mitbringen, um Protect the Planet bei der Erfüllung seiner Mission helfen.

Wie auch du Teil unseres Teams werden kannst, erfährst du [hier](#).



## Figure A2







### *Non-diverse Condition: Members of the organisation*

Suchen Presse Jobs Kontakt Barrierefreiheit

**Protect the Planet** Klimaschutz Biodiversität Frieden Spenden Engagieren Über uns

Startseite | Über uns | **Unser Team**

### Lerne unser Team kennen

	Marit Lange Fundraising		Martin Häusner IT & Sicherheit		Mareike Hoffstein Kampagnen
	Paul Reichert Gremien & Veranstaltungsorganisation		Rainer Burkhart Mitglieder- & Spendservice		Julia Lindemann Social Media & Presse

## **Appendix C**

### **Additional measures**

#### **Association with environmentalists**

Participants association with environmentalists was measured as proposed by Pearson et al. (2018). Therefore, participants were asked whether they would describe themselves as an environmentalist (1 – no, 2 – yes, somewhat 3 – yes, definitely). This item was presented on the same page as the item assessing participants' personal concern.

#### **Perceived Identity-Safety**

In addition to the items on perceived identity-safety by Burrows et al. (2022), three self-generated items on trust were added for explorative purposes, however these items were not considered to answer the research question.

#### **Group association with environmentalists**

To assess participants association of different social groups, the same procedure as proposed by Pearson et al. (2018) was used. Participants were presented with different social groups (different ethnic groups, ages, genders, and wealth) on separate pages in a randomised order. They were asked on a 5-point Likert scale (1- not at all to 5 – very much) to what degree a specific group comes to mind when they think of “environmentalists” (Pearson et al., 2018).

#### **Social identification**

After participants were asked with which ethnic group they identified, they were presented with an item on social identification by Postmes et al. (2013). On a 7-point Likert scale (1 – strongly disagree to 7 – strongly agree) it was assessed to what degree participants identified with their ethnic group.



## Appendix D

### Explorative Analysis of the Data

**Table D1**

*Results Moderated Regression Analyses With a Target's Perceived Identity-Safety as the Predictor*

Criterion variable: Intention to join an environmental organisation in general				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Identity-Safety (I)	0.97	0.16	5.85	< .001
Group Membership (G)	0.40	0.47	0.85	.397
I × G	-0.16	0.13	-1.23	.220
Overall $R^2 = .42$ , $F(3, 289) = 70.11$ , $p < .001$				
Criterion variable: Intention to join Protect the Planet				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Identity-Safety (I)	1.07	0.14	7.75	< .001
Group Membership (G)	0.59	0.39	1.52	.131
I × G	-0.15	0.11	-1.44	.150
Overall $R^2 = .58$ , $F(3, 289) = 131.93$ , $p < .001$				
Criterion variable: Intention to show general pro-environmental behaviour				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Identity-Safety (I)	0.83	0.17	4.93	< .001
Group Membership (G)	0.02	0.48	0.05	.963
I × G	-0.12	0.13	-0.95	.342
Overall $R^2 = .36$ , $F(3, 290) = 54.57$ , $p < .001$				

*Note.* Group membership was coded 1 (autochthonous self-categorisation) and 2 (Turkish self-categorisation).

**Table D2**

*Results Moderated Regression Analyses With a Target's Perceived EC of Autochthonous People as the Predictor*

Criterion variable: Intention to join an environmental organisation in general				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
EC Autochthonous (E)	0.36	0.20	1.83	.069
Group Membership (G)	0.35	0.44	0.80	.425
E × G	-0.12	0.15	-0.82	.415
Overall $R^2 = .04$ , $F(3, 297) = 3.61$ , $p = .014$				
Criterion variable: Intention to join Protect the Planet				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
EC Autochthonous (E)	0.44	.19	2.31	.021
Group Membership (G)	0.67	.42	1.59	.114
E × G	-0.15	.14	-1.07	.283
Overall $R^2 = .06$ , $F(3, 296) = 6.31$ , $p < .001$				
Criterion variable: Intention to show general pro-environmental behaviour				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
EC Autochthonous (E)	0.44	0.19	2.29	.023
Group Membership (G)	0.28	0.42	0.66	.508
E × G	-0.19	0.14	-1.32	.187
Overall $R^2 = .05$ , $F(3, 298) = 5.59$ , $p = .001$				

*Note.* Group membership was coded 1 (autochthonous self-categorisation) and 2 (Turkish self-categorisation).

**Table D3**

*Results Moderated Regression Analyses With a Target's Perceived EC of Turkish People as the Predictor*

Criterion variable: Intention to join an environmental organisation in general				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
EC Turkish (E)	0.35	0.16	2.19	.029
Group Membership (G)	-0.10	0.32	-0.30	.762
E × G	0.02	0.12	0.16	.871
Overall $R^2 = .14$ , $F(3, 294) = 16.61$ , $p < .001$				
Criterion variable: Intention to join Protect the Planet				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
EC Turkish (E)	0.46	0.15	2.97	.003
Group Membership (G)	0.31	0.31	1.01	.315
E × G	-0.05	0.11	-0.49	.624
Overall $R^2 = .17$ , $F(3, 293) = 20.00$ , $p < .001$				
Criterion variable: Intention to show general pro-environmental behaviour				
Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
EC Turkish (E)	0.32	0.15	2.12	.035
Group Membership (G)	-0.40	0.31	-1.29	.198
E × G	0.03	0.11	0.25	.800
Overall $R^2 = .16$ , $F(3, 296) = 18.99$ , $p < .001$				

*Note.* Group membership was coded 1 (autochthonous self-categorisation) and 2 (Turkish self-categorisation).

### **Declaration of Independence**

I hereby affirm that the written assignment at hand is my own written work and that I have used no other sources and aids other than those indicated. All passages, which are quoted from publications or paraphrased from these sources, are indicated as such, i.e., cited, attributed.

A handwritten signature in black ink, appearing to read 'Bischoff', with a stylized, cursive script.

Celina Bischoff, 14.07.2023