

**Group Identity and Perceived Discrimination as Psychological Determinants of  
Community-led Pro-environmental Action**

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PSB3E-BT15: Bachelor Thesis

Group 03

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June 27, 2024

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### **Abstract**

In order to meet the increasing threat of anthropocentric climate change, both individualized and mitigation strategies are no longer viable actions on their own. Research must further explore ways to foster community-led adaptation action and to this effect explore psychological determinants of such action. This study hypothesized that group identification is one of such determinants and has a positive relationship with participation in community pro-environmental actions. Additionally, this paper examined the potential moderating role perceived discrimination might exhibit in this relationship. The study consisted of 97 participants who, through a questionnaire, were measured on a variety of variables as well as indicated their intention to participate in a chosen community-led pro-environmental initiative. The study has found no link between group identification and overall participation, nor a moderating effect of perceived discrimination. However, the findings indicate a positive link between group identification and participation specifically through the provision of resources. Further research into the potential relationship between identification and participation is recommended.

*Keywords: psychological determinants, group identification, pro-environmental community-led initiatives, perceived discrimination, mitigation strategies, climate change*

## **Group Identity and Perceived Discrimination as Psychological Determinants of Community-led Pro-environmental Action**

Anthropogenic climate change poses a drastic threat to the living standard of a majority of the human population (Xu et al., 2020). In recent years, related catastrophes have risen significantly in number and subsequently both in casualties and displaced individuals (Lenton et al., 2023; IRFC, 2021). Based on current projections, this trend will follow a similar trajectory for the foreseeable future if drastic changes are not swiftly implemented (Wallemacq et al., 2017). Within the research on possible strategies aiming for such changes, considerable focus is spent specifically on mitigation strategies (Schmidt-Thomé, 2013). Such strategies are defined through their intent to lessen the process of climatic change by, for example, reducing emissions (Panepinto et al., 2021). However, research suggests that such mitigation strategies alone are not sufficient in preventing the drastic adverse change in living conditions for most of the human population. Thus, adaptational strategies that have the goal of lessening the effect existing adverse change will have on the population are of importance (Zhao et al., 2017). In contrast to mitigation strategies, adaptational strategies are employed to lessen the effect of climatic change often locally and promote adaptation to the changing climate (Schmidt-Thom, 2013).

A limitation of current research is that a considerable amount in this field focuses on individual behavior in response to the climate crisis. Such individual action is increasingly recognized as largely ineffective if not coupled with broader, community-wide participation (Shove, 2010). A majority of the scientific literature advocates for research and planning regarding sustainability and resilience in the face of climate disasters to adopt an approach that focuses on a community-wide scale (Vanclay et al., 2023). Research has additionally shown that adaptational strategies such as urban greening are both more effective in their goals and offer

more immediate benefits to both the environment and the community if planned and executed through a bottom-up approach (Heath et al., 2017). Such a group approach yields results of but is not limited to: higher self-esteem, self-efficacy, and group esteem (Heath et al., 2017). Fostering participation in such initiatives can thus be an effective and worthwhile endeavor. Studies suggest that even those who are aware of the threat climate change poses and find action against it important often do not participate in community-led, pro-environmental behavior (Gifford, 2011). It is thus of significant importance to broaden the research on motivations behind participation in community-led pro-environmental behavior.

In this field, the examination of psychological dimensions of participation, specifically focusing on groups and communities, has shown significant promise (Bürhle et al. 2021). Psychological factors related to groups and communities such as group identification (GI) are valuable in predicting participation in such initiatives. GI in this study is defined as the extent to which an individual's self-perception is linked to membership in a certain group. It in turn is related to various factors that influence behavior such as perceived shared goals and group commitment (Ellemers et al., 1997). Subsequently, predicting participation is a valuable step in the direction of developing interventions to efficiently foster participation.

### **Group Identification**

It is known that being part of a community has a considerable amount of influence on individuals' decisions. Within this context, it is suggested that GI relates positively to participation in community actions (Goedkoop et al., 2022). Research suggests that targeting communal motives to enhance the number of willing participants in community-wide sustainability actions is an effective method (Sloot, 2019; Sloot et al., 2021). According to Bamberg et al. (2015), social identity is suggested to be a significant predictor of participation in

community-led initiatives. Social identity, which is closely related to GI, refers to the extent an individual reports to identify with a specific group in a specific context (Doosje et al., 2002). Heath et al. (2017) additionally suggest that higher GI leads to a higher willingness to contribute to community actions. Goedkoop et al. (2022) theorize that this process exists as GI indicates psychological involvement in the community and the perception of common motivations. This, in turn, leads to acting on such motives by joining community-led actions.

However, the factors influencing this potential relationship still need to be explored. Filling this gap in the present research will provide us with further information that can be used to successfully foster increased participation in pro-environmental community-led actions. Specifically targeting GI to reach this aim might be especially beneficial as heightened GI is associated with a variety of other positive outcomes for both communities and individuals, such as increased life satisfaction (Wakefield et al., 2017).

### **Perceived Discrimination**

One potential factor influencing this relationship is the amount of perceived discrimination (PD) an individual experiences. In this research, we define perceived discrimination through the frequency of “major experiences of unfair treatment” (Williams et al., 1997, p.340). Research suggests that measures of PD are negatively correlated with engagement in some forms of community action, specifically socio-political action (Oskooii, 2016). According to Oskooii (2016), this negative correlation is especially significant when examining perceived societal discrimination. One of the proposed reasons for such a link is that societal discrimination is linked to feelings of inferiority and depression, which in turn are linked to decreased community action (Mays, 2007; Ding, 2022). There exists no extensive research on

the direct effect of perceived social discrimination and participation in community-led pro-environmental action.

A variety of research suggests that one coping strategy employed by those experiencing PD based on ethnicity is heightened ethnic in-group identification (Branscombe et al., 1999; Arat et al., 2022). However, this can not be seen as a confirmation that discrimination necessarily leads to higher GI with groups other than the ingroup. Studies suggest that experiences of PD are negatively linked to a sense of belongingness in local communities which subsequently is correlated with GI (Liu et al., 2014; Wakefield et al., 2017). Considering these interconnected factors it is promising to investigate the potential effect of PD on the relationship between GI and participation in community-led initiatives. This is of heightened interest as there exists a considerable gap in the literature examining this relationship.

### **Current Study**

Based on these concepts, this study aims to explore the relationship between GI and participation in community-led sustainability action. This exploration will take place by examining a collective-based initiative involving neighborhood greening within the city of Groningen located in the north of the Netherlands. Groningen as an urban area is at increased risk of flooding and heatwaves (Cea et al., 2021), dangers which might in part be reduced through the cooling down and water-absorbing properties of green spaces (Petzold, 2023). This initiative thus falls under the category of adaptational strategies. The current study poses several hypotheses regarding the intention of participation in this initiative. Since factors such as self-identity and communal motives seem to be positively linked to the intention to participate in group action, it can be argued that GI is predictive of the intention to participate in such initiatives. The hypotheses are as follows:

**H1:** Group Identity is positively correlated with participation in the initiative

**H2:** Perceived discrimination has a moderating effect on the relationship between group identity and participation.

The study thus examines the factors influencing individual engagement in community-led sustainability actions, with the urgent background of adaptational strategies amidst the rising threat of climate change. This is done by exploring the relationship between GI and participation and the potential effect of PD on this relationship. Through these insights, we aim to inform the creation of future strategies for creating community resilience. This paper explores the motivations behind community-led sustainability action by examining the relationship between community identification and community-led pro-environmental action. In this process, this paper will explore the potential moderating factors of PD.

## **Methodology**

### **Participants**

The present study was conducted with the use of a convenience sample of 124 participants currently living in the Groningen neighborhood of Oosterparkwijk. 28 participants were excluded from the analysis as they failed the attention check or did not fully complete the questionnaire. This neighborhood was chosen due to a perception of its diverse demographic and high proportion of houses with access to a garden. Both of these factors relate to our research design. For the present study, we decided against collecting any demographic variables to ensure the privacy of the participants.

### **Research Design and Procedure**

The design chosen for this study is a cross-sectional survey to test the correlation of GI (IV) on participation in community-led pro-environmental action (DV) with the potential



moderator of PD (DV). The research was approved by the Ethics Committee of the Faculty of Behavioural and Social Sciences at the University of Groningen. All researchers were part of the same thesis group. The participants were approached by a team of a minimum of two researchers at their door and asked to fill in the questionnaire on their private mobile devices. Participants had the option to decline to continue the survey and provided informed consent. They were informed that participation was voluntary and that no compensation would be provided. Details regarding the specifics of the study such as the true purpose of our experiment and our hypotheses were left out to avoid biased answers. Data collection lasted approximately three weeks in May 2024. During the survey, participants were presented with a short introduction to a local initiative related to adaptational behavior (see Appendix B). After these initial texts of information, the participants were asked questions related to their intention to participate in the initiative. This was followed by items investigating their GI. The last part of the survey consisted of items related to measuring the concepts investigated by the individual thesis students; for this paper, the relevant questions are five items regarding PD. The questionnaire included one attention check to ensure that participants were paying attention to the questions. It was available both in English and Dutch to ensure a wider variety and quantity of responses and was available on Qualtrics (Qualtrics, Provo, UT).

### ***Chosen Initiative***

The chosen initiative, ‘The NK Tegelwippen’ is a national initiative encouraging the removal of tiles from private gardens to increase green spaces within the urban environment (NK Tegelwippen, 2024). This is beneficial due to its increased rates of water retention and subsequent cooling effects (Petzold, 2023). This specific initiative was chosen as it is a

community-led pro-environmental initiative that focuses specifically on adaptation to climate change and applies to the local context.

## **Measures**

### ***Participation***

Participation in community-led pro-environmental action was measured through the subject's intention to participate within the formerly described initiative. Participants were asked to indicate the likelihood of a variety of actions regarding participation in the initiative (See Appendix A). The Cronbach's alpha of this group of items was  $\alpha = .871$ .

### ***Group identification***

GI was measured through a single item asking the participants to choose the degree to which they agree with the statement: "I identify with the people in my neighborhood". The validity of this measure has been established (Postmes, 2012).

### ***Perceived discrimination***

PD was measured by five items. These items asked participants to indicate the frequency of scenarios in which they perceived to be treated unfairly. These items were based on the measurement of daily discrimination in the perceived discrimination scale developed by Williams et al. (1997). For example, this includes "You are treated with less respect than other people", (see Appendix A). The reliability of this group of items was  $\alpha = .790$ .

## **Results**

This paper examines two hypotheses, the first being that GI is positively related to participation, and the second is that PD has a moderating effect on this relationship. In order to explore these hypotheses, a statistical analysis of the data using the software JASP (JASP Team,

2024) was performed. This analysis consists of a linear regression as well as a moderation analysis.

### **Preliminary Analysis**

To examine the first hypothesis, a linear regression analysis was employed. To ensure that this analysis would yield identifiable results, the needed assumptions were examined. The scatter plot indicated a degree of linear relationship. The residual plot showed no identifiable pattern, indicating that the assumption of homoscedasticity was not violated. By examining the distribution of errors through the corresponding plot, multivariate normality was determined. The Durbin-Watson statistic of the model was within the bounds of 1.5–2.0 ( $DW = 1.691$ ), which indicates that assumptions of independence of observation were met. The last assumption, namely a lack of multicollinearity, was ensured as the VIF statistic was below 10 ( $VIF = 1.075$ )

To perform a moderation analysis, several additional assumptions needed to be met. The first one is that the dependent variable has to be measured on a continuous scale; this is the case as the dependent variable used is the average of the score on the items that measure participation. The next assumption is that there is one independent variable, which is continuous, and one dichotomous moderator variable. The independent variable used was the identity measure, which reports the corresponding item's numerical score. The moderator variable, PD, is a dichotomous variable indicating whether an individual was sorted within the categories of high perceived discrimination (HPD) or low perceived discrimination (LPD). Belongingness to either group was determined by inspecting the average score on all items relating to PD. Cases falling below the determined cutoff point of 1.78, which is the mean of the data set, were sorted into the LPD group, and cases with an average score above this point into the HPD group. The moderating variable was established through dummy coding with HPD being the reference group. The

assumption of independence of observations has been established by examining the Durbin-Watson statistic of the model which is in the recommended bounds of 1.5–2.0. ( $DW = 1.747$ ). A linear relationship between the dependent variable and the independent variable for each group of the dichotomous moderator variable was roughly established by examining the scatterplots on both levels which indicate some degree of linear relationship. The data was tested for multicollinearity by examining the VIF statistic. As this value is below 10 it was determined that there exists no evidence for multicollinearity ( $VIF = 1.075$ ) The data set then was examined for potential influencing outliers. Four outliers on the variable of identification were determined through the examination of box plots. As they do not appear to be the result of measurement error, the decision was made to include them in the data set. The residual plot depicted no identifiable pattern, indicating that the assumption of homoscedasticity was not violated.

### Descriptives

Depicted in Table 1 are the descriptive statistics of the data set, separated into two groups, LPD and HPD, and both with a sample size of  $n = 48$ . Comparing these at face value, one can see little difference within the groups on the means of participation. However, there does seem to be a considerable difference in the means of GI between groups.

**Table 1**

*Descriptive Statistics*

	LPD	HPD
	<i>M (SD)</i>	<i>M (SD)</i>
Participation	4.443 (1.288)	4.354 (1.302)

	LPD	HPD
	<i>M (SD)</i>	<i>M (SD)</i>
Identification	4.771 (1.477)	3.938 (1.590)

### Main analysis

To examine our first hypothesis, that there exists a positive association between GI and participation in the initiative, we performed a linear regression with participation as the dependent and GI as the independent variable. The data presented in Table 2 indicates that there exists no significant effect of GI on participation ( $\beta = .133, p = .121$ ). The 95% confidence interval indicated that the null hypothesis cannot be rejected (Table II). Furthermore, as seen in Table 3, the model presents a poor fit ( $R^2=0.026$ ).

**Table 2**

*Coefficients of Linear Regression Analyses*

		<i>B</i>	$\beta$	<i>p</i>	95% Confidence Interval	
					Lower	Upper
Identification	Participation	.133	.164	.121	-.031	.298
Identification	P4	.216	.273	.007*	.060	.372

*Note.* P4 = Item 4 in the Participation measure

\* $p < .05$

To examine if this result remains true when controlling for the hypothesis moderator of PD, a moderation analysis was performed using the Process beta included in JASP (JASP Team, 2024). The results of this direct effect, as seen in Table 4, show no significance ( $\beta = .132, p = .112$ ). The 95% confidence interval of this effect additionally indicates that the null hypothesis cannot be rejected. This suggests that there exists no relationship between GI and participation when controlling for the moderating effects of PD.

**Table 3**

*Pearson's Correlations and  $R^2$  of Examined Variables*

		Identification	PD	Participation	P4
Pearson's Correlation	Identification	–			
	PD	–.265*	–		
	Participation	.164	–.035	–	
	P4	.273*	–.067	.811*	–
$R^2$	Identification	–			
	PD	–.070*	–		
	Participation	.026	–.001	–	
	P4	.074*	–.005	.657*	

*Note.* P4 = Item 4 in Participation Measure

\* $p < .05$

Following this, a moderator analysis was performed to examine the second hypothesis, that PD plays a moderating role in the relationship between GI and participation. This analysis was also performed using the Process beta of JASP (JASP Team, 2024). The path coefficients of the effect of GI on participation with PD as a moderator, as seen in Table 4, indicate that the relationship is not significant ( $\beta = -.050$ ,  $p = .769$ ). Additionally, the 95% Confidence interval depicted concludes that the null hypothesis can not be rejected. This leads to the conclusion that PD does not have a moderating role in the relationship between GI and participation.

**Table 4**

*Path Coefficients of moderation analyses.*

		$\beta$	$p$	95% Confidence Interval	
				Lower	Upper
Direct					
Identification	Participation	.132	0.112	-.031	.302
PD	Participation	.024	0.928	-.501	.549
PD	Identification	-.833	.007*	-1.422	-.226
Moderation					
Identification	Participation	.162	.194	-.082	.407
PD	Participation	.244	.759	-1.313	1.801
Identification & PD	Participation	-.050	.769	-.384	.284

\* $p < .05$

### ***Further exploration***

Due to previous theoretical findings indicating a link between PD and GI, further analysis into this relationship was performed. For this analysis, the direct path of PD on GI within the process matrix was examined. Before performing this analysis all assumptions were checked and determined sufficient. This controls for the effect of participation. The result depicted in Table 4, of the direct path of PD on GI, indicates a significant negative effect ( $\beta = -.833, p = .007$ ). The 95% confidence interval indicates that the null hypothesis cannot be rejected. The  $R^2$  value seen in Table 3 indicates a significant fit of the model.

Different types of participation might have different effects and interactions with the independent variable of GI. This might be the case as types of participation, like providing resources, might be perceived as being more collective than individual action, thus the former might be closer related to GI. To explore this possibility an additional linear regression was performed. The regression used the fourth item of the participation scale, “How likely are you to invest resources into this initiative” (P4) as its dependent variable and GI as the independent variable. Prior to this, all assumptions were checked. The results of this analysis, depicted in Table 1, shows a significant positive relationship between P4 and GI ( $\beta = 0.27, p = .007$ ). The data further indicated that the relationship is significant. The 95% Confidence interval leads to the rejection of the null hypothesis. Additionally, the  $R^2$  indicated that the model is a good fit (see Table 2). These results indicated that there exists a significant positive correlation between GI and P4.



## Discussion

### Implications

It is imperative under the current threat of climate change to closer examine the mechanisms and determinants behind participation in community-led pro-environmental action. This was done under the presumption that such action has promising effects in adaptation to the impending change in living standards caused by the changing climate (Vanclay et al., 2023). To examine one of such potential determinants, the study attempted to find a relationship between GI and participation in a selected community-led pro-environmental initiative. This hypothesis was based on prior literature suggesting such a link (Goedkoop et al., 2022). Within the analysis, the study additionally examined the role of PD in the link between GI and participation in the initiative. It was hypothesized that (1) GI is positively linked to participation and that (2) PD exhibited a moderating effect within this relationship.

The findings of this study provide no evidence for the first hypothesis. The results suggest that participants who identify strongly with the group are not more or less likely to participate in pro-environmental community-led action than those who score low on this metric. This stands contrary to previously discussed research by Bamberg et al. (2015), which found social identity, which in turn is related to GI (Doosje et al., 2002), to be a significant predictor of participation in community-led initiatives. The results additionally suggest that the findings by Heath et al. (2017), which suggest that higher GI leads to an increased willingness to pay back to the community, do not translate to all types of participation in community action. The results of the current findings, however, might only apply to this specific context and do not indicate a general lack of effect of GI on participation in all community-led or pro-environmental initiatives. The specific initiative chosen for this study characteristically does not include direct

contact with or provide help for members of the community. Participation in initiatives more closely associated with providing help or speaking up for group members has been suggested to be correlated with GI (Stevenson, 2020; Turner et al. 2021).

Consequently, the present study also does not provide evidence in favor of the second hypothesis, namely that PD has a moderating role in the effect of GI and pro-environmental community action. As such, there seems to exist no difference in the effect of GI on participation between the LPD and HPD groups. This result contrasts the conclusions drawn before based on previous research. It is additionally important to consider that this result cannot be used to draw a wider conclusion as the underlying relationship between GI and Participation was not significant in either group.

The results of the study suggest that those participants who are classified in the high PD group exhibit generally lower scores on GI than those sorted in the low PD condition. This negative effect of PD on GI is in line with prior research conducted by Wakefield et al. (2017). The Rejection-Identification model (Branscombe et al., 1999) suggests that PD might be positively linked to ingroup identification as a coping strategy. This model has since been supported by a large body of research (Chan et al., 2022). Increased ingroup identification might in turn in some cases be related to group differentiation (Gabarrot et al. 2017). Members of the local neighborhood examined in this study might not be part of the in-group affected by PD, which might indirectly influence GI within the local group.

As GI is associated with a variety of positive outcomes, the practical implications of this study suggest minimizing events of discrimination is a worthwhile endeavor (Wakefield et al., 2017). While the existing literature seldom agrees on specific large-scale interventions that reduce discrimination, specific and carefully crafted awareness-raising interventions seem to be

effective in at least some specific areas (Boring et al., 2020). Additionally, field studies on the effectiveness of interventions are recommended (Dur et al., 2023).

The results of the study suggest a positive effect of GI on P4. This suggests that participants who identify closer to the community are more likely to provide resources to aid the initiative. This effect might be explained by previous research which has shown that GI has a positive relationship with specific participation actions that provide direct help to members of the community (Heath et al., 2017). This investing of resources can be understood as providing benefits to those group members choosing to participate in the initiative even if the participants do not directly participate themselves. For example, studies such as the one conducted by Van Vugt (2001) suggest that higher levels of GI are related to limiting resource use to conserve such resources for the local community.

The practical implications of the current study indicate that to foster participation in initiatives through the provision of resources, interventions might be successful by aiming to increase GI. Some academic literature has found that encouraging verbal information exchange leads to an increase in GI (Xie et al., 2023). Alternatively, the results suggest that campaigns that are based on the collection and distribution of resources might benefit from focusing their efforts in communities in which a generally high GI is present.

### **Limitations**

The present study exhibits several limitations that might influence the results. The first potential limitation is the sampling method used, namely convenience sampling. This sampling method leads to restricted generalizability, and thus an inability to apply the findings outside of our sample, as it is limited by the demographics of the research (Borstein et al., 2015). This additionally leads to a reasonable assumption of non-representativeness of the sample. All

participants were selected from a single neighborhood (Oosterparwijk) in the city of Groningen, Netherlands. Thus, any conclusions reached within this study may not be applicable outside of this sample. To assess the potential non-representativeness of the sample, it is recommended for future research to engage in collecting demographic data of the participants. Additionally, it is recommended to aim for a higher sample size and wider area of sampling, which could be achieved by collecting data in other Dutch or even international cities and communities.

Another limitation present is that while the hypothesis specifically included community-led pro-sustainability action, the chosen initiative is organized by an outside party, which has no connection to the group examined in item GI. The initiative thus might not reflect the intended goal of the intention to participate in an action that is specifically led by community members (NK Tegelwippen, 2024).

It is also important that while the results of the participation are published and presented as a communal effort, the actual participation, e.g. removing the tiles from one's garden, is an individual behavior that does not require community contact. Previous research on which this study based its hypothesis put its focus on more direct interpersonal contact and immediate contribution which has been found to be correlated to GI (Heath et al., 2017). To more specifically assess the effect of PD, it might prove beneficial to find a community initiative that more closely requires community-wide cooperation. Should such an initiative not be found, it might prove effective to describe a hypothetical initiative for which the intention to participate might be measured.

The study presents several limitations regarding the second hypothesis, specifically the moderating variable examined of PD. The participants sorted in the HPD group only exhibited minimally higher scores than those classified as LPD. This is the case as the determined cutoff

point, while practical, was not coherent with any theoretical framework that would justify categorizing the high group as 'High' within any other context. This leads to the results being potentially not applicable or robust within groups in which there might exist a higher variance in PD. To more accurately assess the effect of PD on participation, future cohort studies focusing on communities in which PD has a higher variance might be effective. Such communities might be identified by conducting earlier research and collecting demographic information. In this effort, it might also be beneficial to compare groups of participants of ethnic or other minority groups to more closely examine the effect of discrimination on GI as well as participation. In this effort, it is important to build upon the collected data by expanding the item measuring PD, including other variables that measure subjective PD. Further and more excessive research on this effect and topic is highly encouraged and of high importance to draw any definite conclusions.

### **Future directions**

The current research leads to some interesting areas that might be worth exploring in further detail in future studies. The first of which is the effect different conceptualizations of GI might have on the results. Since the current research only uses a singular item to measure GI, future research should focus on broader definitions and types of group identification which might lead to further results. Furthermore, further research comparing and examining different types of communities such as those based on shared goals, for example associations and clubs, might lead to interesting results. Future research might find further illuminating data when considering the relationship between GI and Participation in community-led pro-environmental action within specifically pro-environmental groups.

## **Conclusion**

In conclusion, the present research finds evidence that there exists no link between GI and overall participation in community-led pro-environmental action. It also suggests that PD does not play a moderating role within this relationship. The study notably finds the exception that GI appears to be related to participation through the provision of resources. Further research is needed to ensure this finding and the reasons behind it. The present findings provide us with further direction on which to focus to better understand the determinants of community-led pro-environmental action.

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## Appendix A

### Group Identification

1. To what extent do you agree with the following statement? “I identify with the people in my neighborhood” rated on a 7-point scale from strongly disagree to strongly agree.

### **Perceived Discrimination**

‘How often do these scenarios happen to you?’ Rated on a 5-point scale from ‘Never’ to ‘Often’

1. You are treated with less respect than other people
2. You receive poorer service than other people
3. People act as if they think you are not as good as they are
4. People act as if they think you are dishonest
5. You are threatened or harassed

### **Participation**

‘Based on this initiative, to what extent would you be likely to...’ Rated on a 7-point scale from ‘extremely likely’ to ‘extremely unlikely’.

1. ...participate in this initiative
2. ...enroll for this initiative
3. ...seek more information about this initiative
4. ...invest resources in this initiative

## **Appendix B**

### **Description of initiative**

The NK Tegelwippen is a national initiative dedicated to creating greener neighborhoods by encouraging the removal of tiles from household gardens. Aimed at making the Netherlands more climate-proof. This is because greener gardens are more effective at reducing the risks of both flooding and heat waves, due to higher rates of water retention and cooling effects. Since 2021 municipalities have competed annually on the amount of tiles removed from the gardens. Alongside your neighbors, you can join the initiative by replacing your tiles with greenery such as grass, plants, and trees. Each tile you remove will be added to the ‘tilecounter’ of your municipality. Your participation will not only help your municipality compete, it will also help combat the local risks caused by climate change.

More useful information on how to participate and tips for greening can be found on their website provided at the end of the questionnaire.