



How Do Values and Past Participation Processes Influence
People's Willingness to Participate in Decision-Making
on Renewable Energies?

An Investigation of Public Participation on the Concrete Level.

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Abstract

Including citizens into political decision-making by means of public participation can lead to more acceptable energy policies. However, opponents of local energy projects were found to be more willing to participate and therefore to be overrepresented in corresponding decision-making processes compared to its supporters. The present study investigated whether a more balanced representation of supporters and opponents in local energy-related decision-making can be achieved by emphasizing certain characteristics of a previous decision-making process on the general sustainability of a country. Participants of an online experiment (N = 117) were presented with one of three scenarios manipulated by whether the previous decision-making process entailed public participation and a debate of people's values. Unexpectedly, opponents were not found to be more willing to participate than supporters in any of the scenarios. In line with the hypothesis, when public participation and a value debate were present in the previous decision-making process, neither opponents nor supporters were more willing to participate. Surprisingly, supporters were more willing to participate when there was public participation but when there was no value debate before. Based on the present study, supporters might thus be engaged by emphasizing public participation in previous, more general decisions but without emphasizing values. As the original finding of opponents being more willing to participate was observable only as a nonsignificant trend, having no dominant group in the value condition cannot be clearly attributed to the emphasis of values. Future research should embed the present approach of a scenario study into the context of a real decision-making process to further investigate whether this pattern of findings can be replicated in a significant manner.

Keywords: public participation, values, political decision-making, energy projects

How Do Values and Past Participation Processes Influence People's Willingness to Participate in Decision-Making on Renewable Energies?

An Investigation of Public Participation on the Concrete Level.

Climate change and its progression constitute one of the biggest existential problems causing immense adverse effects on nature and humans (IPCC, 2023). One of the largest factors contributing to climate change is the use of fossil fuels being responsible for more than 75% of global greenhouse gas emissions (United Nations, 2024). A transformation towards sustainability and the increased use of renewable energies requires not only individual action such as switching to a green energy provider but also political guidance such as deciding about locations for renewable energy facilities. As policymaking aiming to further the energy transition has a fundamental influence on people's lives, respective policies need to be acceptable among citizens (Schuitema & Bergstad, 2019).

The increased use of public participation processes as a way of including citizens' input into energy-related political decision-making may hereby lead to more democratic and acceptable policies (Perlaviciute, 2022). Conversely, when citizens feel not included into such fundamental decisions, resistance towards the corresponding policies might grow (Liu et al., 2019). *Public participation* is defined as "organized processes adopted by elected officials, government agencies, or other public- or private-sector organizations to engage the public in environmental (...) decision making" (Dietz & Stern, 2008, p.1).

Citizens can engage in environmental decision-making at two different levels (Perlaviciute & Squintani, 2023). Decisions can either be made early on in a process (at the *abstract* level) when a lot of options are still open for discussion. Abstract decisions "set the framework for adopting the specific decision" (Perlaviciute & Squintani, 2023, p. 5) and "do not lead to changes in real world" (Perlaviciute & Squintani, 2023, p. 5). When debating about an approach to the energy transition in a country, the aim is an abstract strategy rather than concrete measures. Further in the process, decisions lead to the concrete implementation

(the *concrete level*). A debate on this level deals mostly with specific measures “which will lead to a change in real life” (Perlaviciute & Squintani, 2023, p. 4). Decisions on the concrete level could be concerned with the amount and location of wind energy facilities in a municipality. At this level, the number of options open for discussion is more restricted than at abstract level as many decisions have been taken already.

As decision-making processes at the abstract level thus substantially shape those at the concrete level, the current research aims at investigating effects along this “decision-making chain” (Perlaviciute & Squintani, 2020) from abstract to concrete decision-making. Specifically, it will be looked at the effects of characteristics of the abstract decision-making processes on concrete-level processes.

Prior Participation Processes and People’s Willingness to Participate

In the context of public participation in energy-related decision-making, people were found to be driven to engage by the extent to which they feel like they can have an impact on governmental decisions (so-called *political efficacy*; Ernst & Shamon, 2020; Gustafson & Hertting, 2017). Conversely, it is demotivating when public participation is offered while the input of citizens is not considered for the final decision. Being perceived as *fake participation*, this can lead to opposition from the public (Perlaviciute, 2022). Thus, when seeing that there was public participation at the abstract level with the input of citizens taken seriously and considered for decision-making, perceived political efficacy might be enhanced and further motivate people to participate at concrete level.

In the present research, it shall thus be looked at this role of offering public participation from abstract to concrete level of decision-making. Subject of investigation is whether offering public participation and the consideration of people’s input at abstract level increases their willingness to participate at concrete level.

The Potential of Values in Energy-Related Decision-Making

Fundamental to *engaging the public* to participate in decision-making is including people's values as guiding principles of their lives (Schwartz, 1992) contributing substantially to the acceptability of energy policies (Bergquist et al., 2022; Nabatchi, 2012). Theoretically, four kinds of values can be distinguished (De Groot & Steg, 2008; Steg et al., 2014): biospheric values (i. e., caring about the natural environment), altruistic values (i. e., caring about other people), hedonic values (i. e., caring about pleasure and joy connected to a behavior), and egoistic values (i. e., caring about individual resources). In the context of renewable energies, people might therefore value and be moved by how the construction of energy facilities affects the immediate environment (biospheric values), how people living close to the facilities are affected (altruistic values), how much pleasure people experience from the energy facilities (hedonic values), and how much people must pay for the implementation (egoistic values).

Everyone pursues all four kinds of values to an extent with different levels of importance assigned to them (Rokeach, 1973; cited by Bouman et al., 2018). When wanting to involve everyone, different kinds of values held by the public must be included into respective decision-making processes. Citizens should feel like the values most important to them have been considered (Nabatchi, 2012).

When political decision-making processes are still in their early stages, it is however mostly biospheric and altruistic values included in the discussion of possible effects of energy-related decisions. The relevance of such decision-making processes for egoistic and hedonic aspects is often being left out only becoming relevant when discussing the concrete implementation (Perlaviciute & Squintani, 2023). Therefore, people may experience feelings of loss within concrete-level decision-making process as they feel like some of their values have not been taken into consideration before (Liu et al., 2022).

In the present study, it will be examined whether including and emphasizing all values relevant to people already at the abstract level can foster feeling represented and thus, motivate more people to participate in decision-making at concrete level.

Motivational Differences Underlying Participation at Abstract vs. Concrete Level

When implementing public participation practically, policy makers formerly assumed that citizens would automatically participate in decision-making as soon as they are offered to (Perlaviciute & Squintani, 2023). Perlaviciute & Squintani (2023) however found that people are driven by different motivations to participate in political decision-making at abstract vs. concrete level. At abstract level, citizens' values seem to determine people's willingness to participate in energy-related decisions. Hereby, biospheric values and altruistic values are the main drivers for participating in decision-making. At concrete level, people seem to be most motivated if they oppose the energy project (Perlaviciute & Squintani, 2023). Thus, not everyone engages automatically in public participation whenever getting the chance to (Perlaviciute & Squintani, 2023).

This induces an imbalanced representation of people's motivations to participate at the concrete level of decision-making. The inclusion of interests stemming mostly from opponents of the concrete energy project does not represent the needs of supporters. What follows from this are policies based on the input of only a share of the population. Supporters might not feel represented in their values by the participating opponents. This might, in turn, lead to decreasing acceptability of or even resistance towards the policies (Perlaviciute, 2019) by the supporters.

The present research therefore aims at investigating how people with different motivations can be represented better in public participation practices. It is hereby focused on the concrete level of decision-making examining how not only opponents but also supporters of a concrete energy project can be motivated to participate. As one possible solution, it shall

be examined whether highlighting shared values and public participation at abstract level leads to different people being willing to participate at concrete level.

Emphasizing shared values within a process of public participation at an abstract level might lead people to feel like their values have been considered before. This might apply to opponents of the concrete project as well as to its supporters. Opponents might have less of a feeling that their values had not been addressed in previous stages of the decision-making process (i. e., on abstract level) and thus, feel less like they are losing something (Liu et al., 2022). This might consequently reduce their “overparticipation” in concrete decision-making processes on energy.

As for the supporters, previous research has shown that values affect people’s behavior rather indirectly (Nguyen et al., 2016; Wang et al., 2021) but that emphasizing people’s values to them can support acting more in line with one’s values (De Groot & Steg, 2009; Tapper et al., 2012). Emphasizing values might thus lead supporters to be more willing to participate as their attention is drawn towards the values relevant to them, recognizing the energy project to be relevant for their values.

Willing to Participate but Unwilling to Discuss?

Opponents of a concrete energy project are not only more willing to participate in concrete decision-making, but they have also found to be unwilling to discuss any circumstances under which a project could be implemented (Liu et al., 2022). Deliberative democratic theory puts this act of discussing and debating a matter into the focus of political decision-making (Chambers, 2003). Formats of public participation that include deliberation have shown to lead citizens to being less sceptical of climate change (Hobson & Niemeyer, 2011) and, to being more supportive of environmental policies (MacKenzie & Caluwaerts, 2021).

Thus, it shall be examined exploratively whether emphasizing the existence of past participation opportunities and an agreement on shared values influences not only

participants' willingness to participate in decision-making but also their willingness to do so with an open mind and to not only use participation to say "no" to the concrete project (Perlaviciute & Squintani, 2023).

Social Identity and People's Willingness to Participate

Additionally, the role of social identity will be investigated. Based on the Social Identity Approach (Tajfel & Turner, 1979; Turner, 1978), a part of people's self-concept is based on the groups they belong to and their identification with these groups and their members. Members of the groups one belongs to (ingroup members) were shown to be judged as more likeable and trustworthy than members of groups one did not belong to (outgroup members; Tanis & Postmes, 2005).

In the present investigation, the extent to which participants identify with the group of citizens that has participated in the scenario on abstract level of decision-making will be assessed exploratively.

Research Question

In sum, the present research aims to answer the following research questions: How can people with different motivations to participate on the concrete level of decision-making on energy be stimulated to participate? How does emphasizing public participation and an agreement on shared values in decision-making on the abstract level influence people's willingness to participate in decision-making on renewable energies on the concrete level?

Hypotheses

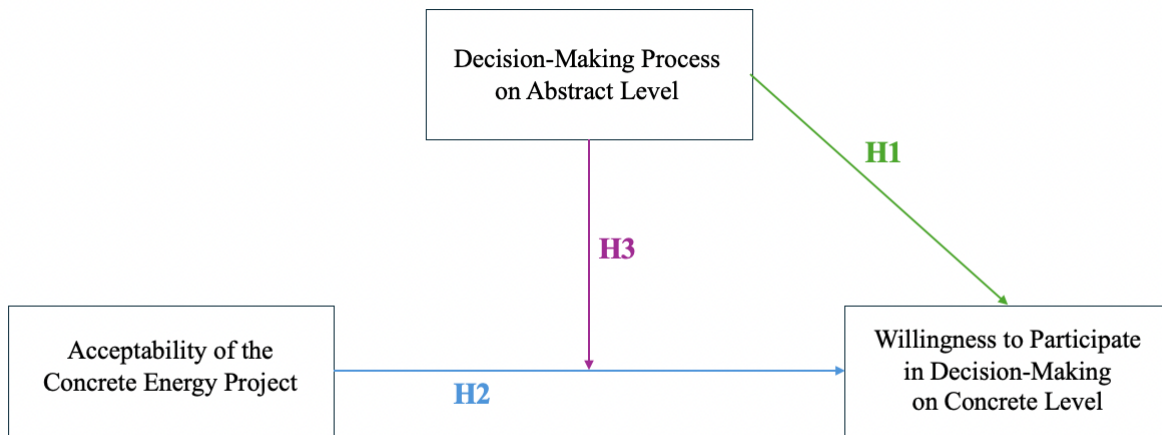
Building on research findings highlighting the influential role of political efficacy for people's willingness to participate (Ernst & Shamon, 2020; Gustafson & Hertting, 2017), the level of past participation is expected to be related positively to citizens' willingness to participate. People want to participate more at concrete level when there was public participation at abstract level than when there was no possibility to participate (Hypothesis 1 (H1)).

Based on previous research projects revealing a negative association between the acceptability of the concrete energy project and people's willingness to participate (Liu et al., 2022; Perlaviciute & Squintani, 2023), citizens' acceptability of the concrete project is expected to be associated negatively with their willingness to participate on the concrete level: the less they accept the project, the more they are willing to participate in related decision-making (Hypothesis 2 (H2)).

Finally, a main function of public participation lies within personal values being voiced by the public and being considered for decision-making (Nabatchi, 2012). The association between acceptability and willingness to participate (H2) is thus assumed to depend on the characteristics of the associated abstract decision-making process. The relationship in H2 is expected to be qualified by the extent to which there was public participation and value agreement on the abstract level (Hypothesis 3 (H3); see Figure 1 for full theoretical model). More specifically, it is assumed that when abstract decision-making does not include public participation and an agreement on values, the effect of H2 will be shown (Hypothesis 3a (H3a)). On the opposite, when abstract decision-making has included public participation and an agreement on shared values, the assumed effect of H2 is expected to not be shown (Hypothesis 3b (H3b)). Finally, when abstract decision-making has included public participation but no agreement on shared values, it will be explored whether the effect of H2 is shown (Hypothesis 3c (H3c)).

Figure 1.

Conceptual Model Depicting the Expected Relationships and the Corresponding Hypotheses



Participants' willingness to discuss will be assessed exploratively as a second dependent variable. The role of social identity will be assessed exploratively. It is hereby assumed that a decreased level of identification with the citizens participating in decision-making on abstract level might hinder the psychological mechanisms behind the predicted effect of H3.

The Present Study

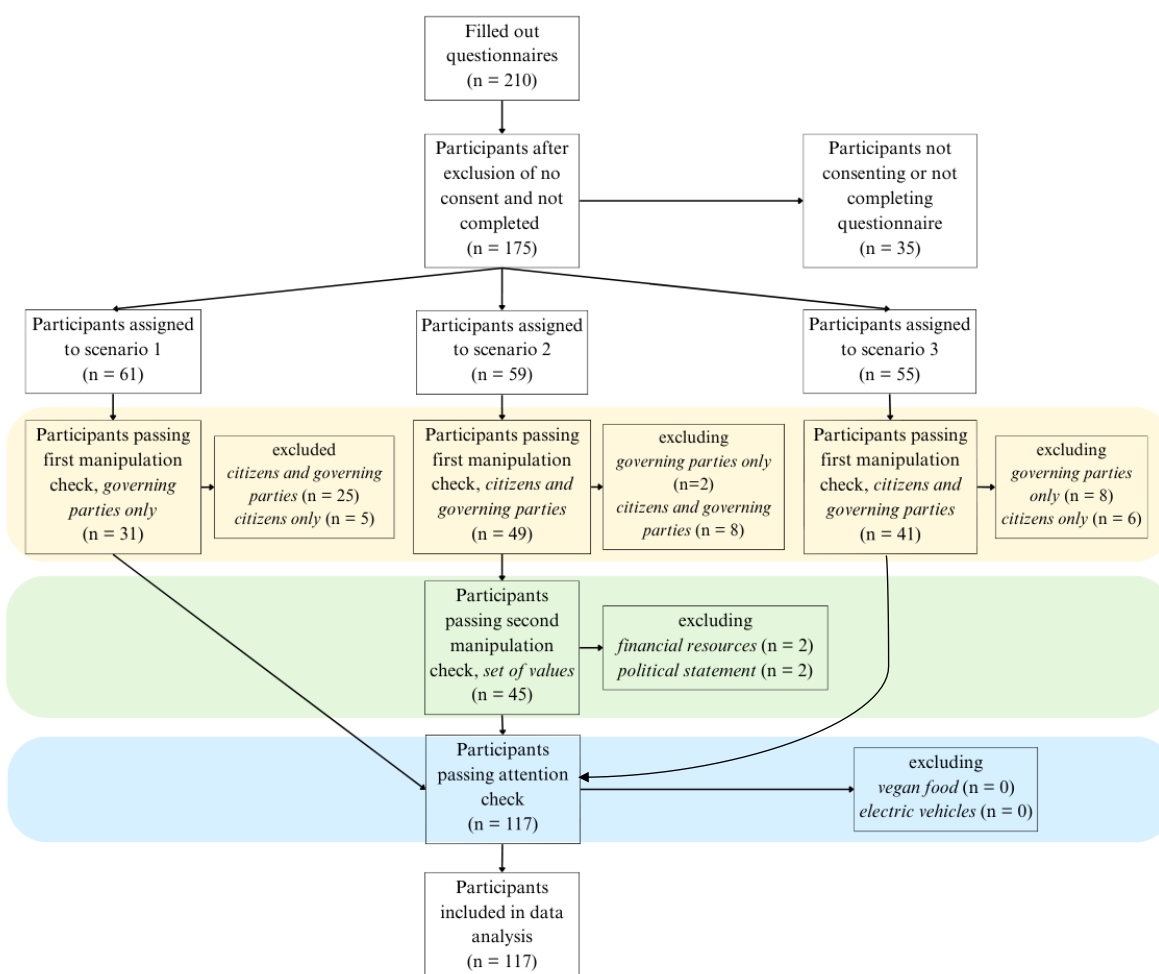
The present study has the potential to contribute substantially to existing research in the field of public participation, environmental science as well as psychological science. From the perspective of participation research, the present research aims at exploring how public participation can include a more diverse formation of people and their input. Looking at it from the environmental sciences perspective, it investigates how the implementation of renewable energies at concrete, local level can become more acceptable among the public through engaging a group of citizens representative for the public when it comes to their motivations to participate. Finally, from a psychological perspective, it shall be examined whether emphasizing values helps people to recognize a subject to be relevant for them and act accordingly from abstract to concrete decision-making.

Methods

Participants

For determining the number of participants, an a priori power analysis was conducted with G*Power 3.1. To reach a power of .95 with an α error probability of .05 and a medium effect size of $f^2=.15$ with acceptability of the concrete project and the abstract decision-making process as the two predictors, 107 participants were required. Although the relationship between acceptability and willingness to participate was expected to be strong (Liu et al., 2022; Perlaviciute & Squintani, 2023), it was uncertain how strong the effect of the different scenarios will be. Therefore, an adapted power analysis with an effect size between a small and a medium effect of $f^2=.08$ led to 197 participants. To account for potential exclusion, 250 participants were aimed for.

Participants were recruited via SONA, an online system of the University of Groningen through which first year-psychology students collect compulsory study points by participating in studies. Recruitment via SONA led to 78 participants. Additionally, participants were recruited through convenience sampling without any incentive. Private contacts were approached via messengers, social media, or e-mail. This method yielded 132 participants. Thus, 210 participants filled out the questionnaire. Evaluating the attention and manipulation check and excluding participants correspondingly as depicted in Figure 2 led to 117 participants being included in the analysis.

Figure 2*Flow Chart of Excluded Participants after Evaluating Manipulation and Attention Check*

Note. Yellow illustrating first manipulation check: Who debated on a strategy to make your country more sustainable? Green illustrating second manipulation check: What did they base their decision on? Blue illustrating attention check: What was decided to be expanded in your country for a transition towards sustainability?

Table 1 shows that most of the participants identify with female gender. Participants were asked how long they have been living in the country they live in (years of past residency) and for how long they intend to stay in their current country of residence (years of future residency). Most participants have lived in their country for their whole life while for the years of future residency, the response distribution was more dispersed.

Table 1*Sample Characteristics*

Characteristics	Answer Options and Corresponding Prevalence in Total Sample					
Gender	Female	Male	Non-Binary	Other	I don't want to give an answer	
	76 (65%)	33 (28%)	5 (4%)	2 (2%)	1 (1%)	
Years of Past Residency	< 1 year	1-5 years	5-10 years	> 10 years	For my whole life	I don't want to give an answer
	17 (15%)	15 (13%)	6 (5%)	11 (9%)	68 (58%)	0 (0%)
Years of Future Residency	< 1 year	1-5 years	5-10 years	> 10 years	For my whole life	I don't want to give an answer
	9 (8%)	34 (29%)	11 (9%)	21 (18%)	39 (33%)	3 (3%)

Note. Numbers of percentages are rounded.

Based on the recruitment strategies, it can be assumed that the average participant was around the age of a student and lived either in the Netherlands (as for the SONA participants) or Germany (as for the participants recruited personally).

In the recruitment text (see Appendix A1), the research was described as a “questionnaire study (...) on (...) decision-making on renewable energies”. Participants were told they will read a short text before answering some questions which would take about ten minutes. To be eligible for participation, a sufficient understanding of the English language and an age of at least 18 years was required.

Procedure and Design

Data collection started after approval from the Ethics Committee of Psychology of the University of Groningen. The study was set up as an online experiment in the online survey tool Qualtrics. Participants were initially presented with an information form (see Appendix

A2) describing the content, the aim, and the procedure of the study. They had to consent to participate, to their data being processed and to being at least 18 years old (see Appendix A3).

A between-participants mixed model research design was applied. Participants got assigned to one of three fictitious scenarios of a political decision-making process on wind energy that they were asked to imagine. A manipulation check followed tailored to the respective scenario. Subsequently, participants were asked to indicate their willingness to participate in the decision-making process as well as their acceptability of the energy project. For the explorative analysis, people's willingness to discuss as well as their degree of identification with citizens participating in the abstract decision-making process were measured.

After assessing sociodemographic data (see Appendix A4) and offering to leave comments or questions, a debriefing form (see Appendix A5) was presented as participants were not informed about the random allocation to one of the three scenarios beforehand. A detailed description of the purpose of the study, the research question and the main hypotheses followed. Participants were reminded of their right to withdraw the consent initially given. Contact information for open questions or complaints formed the end of the questionnaire.

Measures

Acceptability of the Local Project

Acceptability of the wind energy project was assessed with a scale adopted from Liu et al. (2019; see Appendix A6). Participants were asked to rate whether they *think the expansion of wind energy in their municipality is* -3 = *very unacceptable* to 3 = *very acceptable*, -3 = *very bad* to 3 = *very good*, -3 = *very negative* to 3 = *very positive*, and -3 = *very unnecessary* to 3 = *very necessary* on 7-point Likert scales. The scale turned out to have good reliability ($M = 5.75$, $SD = 1.09$, $\alpha = .89$).

Willingness to Participate

Participants indicated their willingness to participate (see Appendix A7) by rating whether they *would want to participate in the decision-making process on wind energy in their municipality* on a 7-point Likert scale ranging from 1 = *not at all willing to participate* to 7 = *extremely willing to participate*. In case of choosing anything else but 1 = *not at all willing to participate*, it was asked specifically whether they would find it desirable *to be informed about the wind park, to have a say about the wind park, to co-decide with fellow citizens and the leading politicians of their municipality about the wind park, and of citizens deciding on their own about the wind park*. This was rated on a 7-point Likert scale from 1 = *not at all desirable* to 7 = *very desirable* (adopted from Perlaviciute & Squintani, 2023). Reliability of the scale was acceptable ($M = 4.83$, $SD = 1.10$, $\alpha = .72$).

Experimental Manipulation

Participants were presented with one of three scenarios of a decision-making process on energy at abstract level (see Table 2; for full text see Appendix A8). Key elements of the text were printed in bold to make them more noticeable. In all scenarios, participants were asked to imagine that the government of the country they live in aims at making the country more sustainable. In the scenarios, a group of people discussed this topic expressing their points of view. The scenarios varied in whether this group of people was either people from the government only or of people from the government and a group of citizens jointly debating on abstract (i. e., country) level. The scenarios further varied in whether it was mentioned that the deciding parties agreed upon shared values within this discussion.

Across all conditions, after describing the decision-making process on abstract level, participants were told that the group of people participating in the discussion decided to increase the use of wind energy in the country, and that there are plans to implement a respective energy project in their vicinity. Therefore, the municipality they live in, asks their citizens, and therefore also the participant, to participate in this decision-making process on concrete (i. e., municipality) level. Monthly meetings in the townhall would be organized to

discuss the project and its implementation. Finally, participants were ensured that, when participating, their input will be taken seriously.

In the first scenario (top-down), no public participation took place on abstract level of decision-making. Only the governing parties of the country's democratically elected parliament discussed the transition towards more sustainability. No value debate was mentioned in the first text.

In the second scenario (participation with values), a representative group of citizens debated together with the governing parties on how to make the country more sustainable. It was hereby highlighted that over the course of this discussion, the group of citizens and the parliament agreed upon a set of values important to them. Those values were briefly explained based on an established value framework (De Groot & Steg, 2008; Steg et al., 2014).

The description of the third scenario (participation without values) also included public participation on the abstract level of decision-making. No agreement on shared values was introduced in this text.

After the exclusion process depicted in Figure 2 and subsequent random assignment, 31 participants were allocated to the first scenario (top-down), 45 people got assigned to the second scenario (participation with values) while 41 people should imagine scenario three (participation without values).

Table 2

Experimental Scenarios

Scenario 1 (top-down)	Scenario 2 (participation with values)	Scenario 3 (participation without values)
No participation on abstract level No value debate	Participation on abstract level Value debate	Participation on abstract level No value debate

Note. In the online-experiment, participants were assigned to one of the three scenarios.

Identification with Participating Citizens

For both scenarios with public participation at abstract level of decision-making, the identification with the participating group of citizens was assessed (see Appendix A9)

Adapted from Postmes et al. (2013), participants were asked whether they *identify with the group of citizens that debated with my government initially on how to make the country more sustainable*. The rating was carried out on a 7-point Likert scale ranging from 1 = *fully disagree* to 7 = *fully agree* ($M = 4.76$, $SD = 1.10$).

Willingness to Discuss

Whether participants are generally willing to discuss was assessed with three items (see Appendix A10). Participants were asked to evaluate whether they *look at a situation such as the wind energy project from different points of view before they make a decision*, whether *searching extensively for all existing arguments before deciding something in a context such as the wind energy project is a waste of time*, and whether they are *trying to put themselves into the position of someone who has a different opinion on a topic such as the wind energy project*. The statements were rated on a 7-point Likert scale from 1 = *fully disagree* to 7 = *fully agree*. The scale's reliability turned out to be bad ($\alpha = .56$). The second item contributed substantially to this which is why it was excluded leading to a questionable reliability ($M = 5.44$, $SD = 0.92$, $\alpha = .68$).

Attention & Manipulation Check

A check of the participants' attention as well as their ability to perceive the manipulation (see Appendix A11) was part of the questionnaire. In all groups, people were asked who was debating on the country's sustainability developments. They were offered with three answer options: *a group of citizens only*, *a group of citizens and the governing parties of the country*, and *the governing parties of the country only*. Further, participants in all conditions were asked whether *vegan food*, *electric vehicles*, or *wind energy* was decided to be expanded in the country. Participants assigned to the second scenario (participation with

values) received an additional question to ensure the strength of the value manipulation. They were asked whether *the financial resources available to the country, a statement on the topic of the country's leading group of politicians, or a set of values important to them* was the basis for the decision being taken in the scenario. Participants who failed to correctly answer all questions were excluded from the Data Analysis process.

Statistical Analysis

For testing the hypotheses, simple and multiple linear regression were conducted using RStudio Version 2024.04.1+748.

Results

Investigation of Outliers

Outliers were detected for acceptability and willingness to participate. After checking the respective participants' answers to the other questions without identifying any irregularities, no outliers were excluded from the dataset as they represented natural variation among the participants.

Test of Assumptions

Prior to examining the hypotheses, it was tested for linearity, homoscedasticity, independence of residuals, normality, and multicollinearity.

Component and residual plots were created to test for linearity. The values of the participants deviated slightly from the predicted values as the outliers were not excluded and as the participants were very acceptable of the concrete project. No strong violation was visible which is why linearity was assumed.

For testing homoscedasticity and independence of residuals, a scatter plot of the predicted values and the residuals was created. Additionally, a Breusch-Pagan-Test was conducted. Both results indicated homoscedasticity.

A histogram, a Q-Q plot, and a Shapiro test suggested that normality is not given in the dataset which might have been due to the included outliers. Considering the present

sample size and the other assumptions being met, a violation of normality is not expected to influence the results substantially (Knief & Forstmeier, 2021; Schmidt & Finan, 2018).

When testing for multicollinearity of the predictors including the interaction effect, the resulting values indicated multicollinearity. However, only a small correlation existed between the variables. Thus, it was assumed that the two variables were not highly correlated with each other, but that this was resulting from the interaction.

Descriptive Statistics

As for a first overview of descriptive differences between the participants in the three scenarios, means and standard deviations were calculated for the numerical items. Being distinguished for the three experimental scenarios, they are depicted in Table 3. The items assessing acceptability, willingness to participate and willingness to discuss were combined respectively for the analysis and their mean was worked with. As for the associations between the main numerical variables, their strength and direction, correlations were calculated as depicted in Table 4.

Computing the correlation between the main variables of the theoretical model acceptability of the local project and participants' willingness to participate in concrete-level decision-making led to a small and insignificant correlation. With respect to the explorative analysis of willingness to discuss, the significant, moderately sized correlation between participants' willingness to participate and their willingness to discuss should be noticed.

Table 3

Means and Standard Deviations of the Numerical Variables Distinguished for the Experimental Scenarios

	Scenario 1 (top-down)		Scenario 2 (participation with values)		Scenario 3 (participation without values)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Acceptability	5.98	0.91	5.69	1.11	5.63	1.17
2. Willingness to Participate	4.87	1.04	4.97	0.97	4.64	1.26
3. Identification with Participating Citizens	-	-	4.93	1.44	4.56	1.50
4. Willingness to Discuss	5.37	0.86	5.60	0.91	5.31	0.96
5. Years of Past Residency	2.87	1.43	2.69	1.65	2.98	1.59
6. Years of Future Residency	2.65	1.54	2.22	1.46	2.63	1.39

Note. Participants in Scenario 1 (top-down) were not asked about their identification with the citizens participating in decision-making on abstract level.

Table 4

Pearson Correlation Coefficient Calculated Between all Numerical Variables

	1.	2.	3.	4.	5.	6.
1. Acceptability	1					
2. Willingness to Participate	.07	1				
3. Identification with Citizens Participating at Abstract Level	.32**	.24*	1			
4. Willingness to Discuss	.18	.34***	.27*	1		
5. Years of Past Residency	-.21*	-.24**	-.04	-.00	1	
6. Years of Future Residency	-.12	-.21*	.00	.03	.65***	1

Note. *** $p < .001$, ** $p < .01$, * $p < .05$

Test of Hypotheses

Hypothesis 1: Participation at Abstract Level and Willingness to Participate

Firstly, it was tested for the association between the extent to which there has been public participation at the abstract level of decision-making and people's willingness to participate in the decision-making process at concrete level. A first visual check based on boxplots (see Appendix B1) depicting participants' willingness to participate in the three different scenarios revealed hardly any median differences in willingness to participants among the three scenarios. It was however visible that the selected answers for participants in the third scenario (participation without values) were more scattered than in the other two scenarios. This was confirmed by descriptive differences between the scenarios depicted in Table 3. For conducting regressions, the scenarios were dummy coded. When conducting regressions comparing all of the dummy coded scenarios, no significant effects were found (comparing scenario one and two: $t(114) = -0.40, p = .69, 95\% CI [-0.60, 0.40]$; comparing scenario two and three: $t(114) = 1.41, p = .16, 95\% CI [-0.13, 0.80]$; comparing scenario one and three: $t(114) = 0.88, p = .38, 95\% CI [-0.28, 0.75]$) which is why H1 was rejected. Emphasizing public participation at abstract level did thus not to lead to a higher willingness to participate at concrete level.

Hypothesis 2: Acceptability and Willingness to Participate

Secondly, the predicted negative association between participants' acceptability of the concrete energy project and their willingness to participate in decision-making at concrete level (i. e., in their municipality) was examined. The correlation coefficient calculated earlier indicated a small, non-significant correlation. Testing for the main effect with simple regression, no significant effect was found either ($t(115) = 0.79, p = .43, 95\% CI [-0.11, 0.26]$). When testing for the complete group of participants, H2 was therefore rejected. In the overall sample, opponents were not more willing to participate in concrete decision-making than supporters.

Hypothesis 3: Interactions of Abstract Decision-Making Process

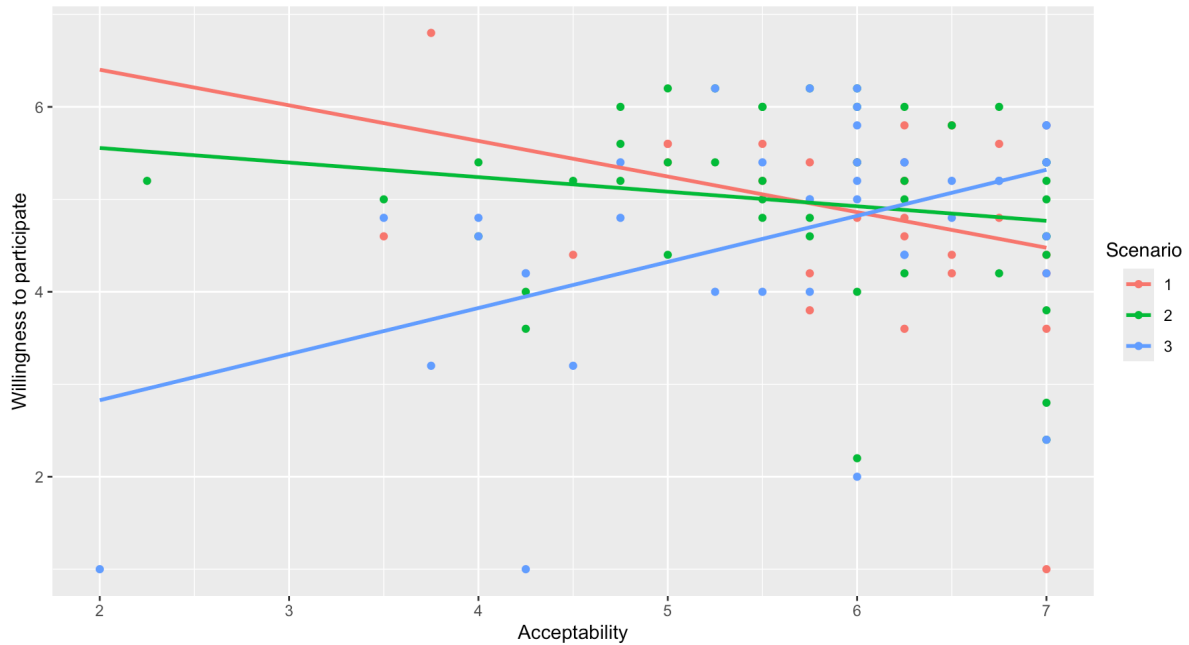
The third hypothesis predicted that the relationship in H2 is qualified by the extent to which there was public participation and value agreement at the abstract level of decision-making. Initially, an interaction effect was thus tested for with multiple linear regression. The comparison of the dummy-coded scenarios revealed significant interaction effects of acceptability and the first ($t(111) = -3.54, p < .001, 95\% CI [-1.38, -0.39]$; top-down) as well as the second ($t(111) = -3.32, p = .001, 95\% CI [-1.05, -0.26]$; participation with values) scenario when being compared with the third scenario (participation without values). With an adjusted $R^2 = .12$, both participants' acceptability of the concrete project and the scenario explained 12% of the variance in people's willingness to participate in decision-making on concrete level. This interaction effect provided support for the prediction made in H3. Whether acceptability and willingness to participate were associated thus depended on whether there was public participation and value agreement at the abstract level of decision-making.

To look at the interactions more specifically, the relationship between acceptability and willingness to participate per scenario was depicted visually (see Figure 3). The graph suggests that people in scenario three (participation without values) show a different response pattern compared to the other two scenarios. For investigating this more in detail, separate regressions were performed per scenario.

Figure 3

Plot Depicting Associations Between Acceptability and Willingness to Participate

Distinguished for the Experimental Scenarios



Note. Scenario 1 = Top-Down, Scenario 2 = Participation with Values, Scenario 3 = Participation without Values.

Hypothesis 3a: Interaction in Scenario 1 (Top-Down). In the first scenario without public participation on abstract level and no debate of values, it was assumed that the predicted negative association between participants' acceptability and their willingness to participate on concrete level will be evident. Testing for this with simple regression, no significant association was found ($t(29) = -1.93, p = .06, 95\% CI [-0.79, 0.02]$). Hypothesis 3a was therefore rejected. No pattern was found in participants' willingness to participate based on how acceptable they found the project in the first scenario.

Hypothesis 3b: Interaction in Scenario 2 (Participation With Values). When being in scenario two with public participation and a debate of values on abstract level, the negative association between participants' acceptability and their willingness to participate on concrete level was expected to not be shown. Testing for this with simple regression, no significant

association was found ($t(43) = -1.02, p = .24, 95\% CI [-0.42, 0.11]$). This would technically support the prediction made in Hypothesis 3b. However, as no effect was found when examining Hypothesis 3a either, this cannot be clearly attributed to being exposed to a different scenario.

Hypothesis 3c: Interaction in Scenario 3 (Participation Without Values). The third scenario with public participation on abstract level but no debate of values was investigated exploratively. It was examined whether the negative association between acceptability and participate would be visible. When investigating this via simple regression, a significant positive association of acceptability and willingness to participate ($t(39) = 3.27, p = .002, 95\% CI [0.19, 0.81]$) was shown. Thus, the more people accepted the concrete energy project, the more they wanted to participate in concrete-level decision-making.

Explorative Analysis

Social Identity

Identifying with the citizens who participated in the abstract decision-making process was assumed to further strengthen the postulated effect of the different scenarios (as hypothesized in H3). Not identifying with the citizens who have participated in decision-making on abstract level was assumed to hinder the potential of emphasizing shared values on abstract level to reduce the “overparticipation” of opponents in concrete decision-making. When adding social identity to the regression model, no significant effect of social identity became evident. The adjusted $R^2 = .13$ did not increase substantially.

Willingness to Discuss

In addition to people’s willingness to participate, their willingness to discuss the outcome of a decision-making process was explored. All hypotheses were tested with willingness to discuss as alternative dependent variable. The effects were very similar to the ones attained with willingness to participate. The only significant effects were found for the interaction effect (H3) and the third scenario (H3c; participation without values). The initially

calculated significant, moderate positive correlation between willingness to participate and willingness to discuss already pointed towards this.

Discussion

The present research work aimed at investigating how people with different motivations can be represented better in public participation processes. It was focused on the concrete level of decision-making, when decisions are leading to the specific implementation of a project. It was questioned how not only opponents but also supporters of a concrete energy project can be motivated to participate. As one possible solution, it was examined which role characteristics of the abstract decision-making process play in engaging a group of people more diverse in their motivations to participate at the concrete level. The characteristics under investigation were whether public participation was offered and whether shared values were agreed on in the abstract decision-making process, so the one aiming at an general strategy for approaching a decision.

Earlier studies discovered that the main driver for people's willingness to participate is whether they feel like they have an impact on the respective political decision (Ernst & Shamon, 2020; Gustafson & Hertting, 2017). Subsequently, it was assumed that an emphasis on public participation in decision-making within a previous, abstract decision-making process would lead to the participants wanting to participate more in the process on the concrete, municipality level (H1). This was, however, not confirmed within the present research. Participants were not more willing to participate when emphasizing that citizens could participate in a previous decision-making process compared to when this decision was made by the government only. What might hereby have an effect is whether engaging in political decision-making is something people perceive as part of their identity (Hafer & Ran, 2016) and therefore engage it. Influential might also be whether they feel able to engage in public participation formats. This can be hindered by a perceived lack of time, knowledge, or courage to discuss (Bobbio, 2019; King et al., 2015; Squintani, 2017). With being more

female and of younger age, participants of the present study were not people who are generally found to mostly engage in public participation formats (Fung, 2003).

Previous research has shown that particularly opponents want to participate in concrete decision-making (Perlaviciute & Squintani, 2023; H2) which could not be replicated in the present research. People's acceptability of the hypothetical energy project was overall higher than in the original study (Perlaviciute & Squintani, 2023). This could be due to the averagely lower age of the participants contributing to a higher acceptability level (Hobman & Ashworth, 2013; Langer et al., 2018), research findings on the role of age are however contradictory (Bergquist et al., 2022; Devine-Wright, 2007). The sample was additionally mostly comprised of female participants (Van der Linden, 2017) assumably perceiving climate change as a severe risk to a higher degree (Bergquist et al., 2022; Van der Linden, 2015). Likewise, the setting of the present work was very different. The participants of the initial study were confronted with an actual energy-related decision-making process in their municipality while in the current study, they were only asked to imagine hypothetical scenarios of such a process. This created a more artificial situation, and participants might have not felt directly affected and involved with the respective situation (Bogner, 2012), leading to differences in the effects.

Further supposed was that opponents tend to participate more frequently in concrete decision-making depending on whether there was public participation and value agreement on the abstract level (H3). When comparing how acceptability was related to people's willingness to participate, participants differed from each other across the different conditions. When it was only the government that decided (Scenario 1, top-down), neither supporters nor opponents of the project were more willing to participate in concrete decision-making. The same was found for Scenario 2 (participation with values). An investigation of the third scenario (participation without values) revealed that the supporters of the project were more willing to participate in the following decision-making process.

Finding no pattern in participants' willingness to participate based on how acceptable they found the project in the first scenario (top-down, H3a) could be explained by a high level of trust in governmental institutions and in them considering people's values within the present sample. With the scenario being described as "a parliamentary debate on this topic in which every political party could express their point of view", participants might have also perceived the process of abstract decision-making as a very fair and transparent one. This felt trust and perceived procedural justice (Liu et al., 2020) towards the government might have led to a higher degree of acceptability (Perlaviciute & Steg, 2014) of the concrete energy project and less of a felt need to participate. It is however noteworthy that although the effect did not reach full significance, the statistical analysis indicated that it was close to being significant. Thus, it is likewise possible that the sample was not large enough to significantly detect an increased willingness to participate of opponents.

In the second scenario (participation with values, H3b), people's acceptability of the concrete energy project and their willingness to participate were not meaningfully related either. This was in line with the respective hypotheses. In view of having found the same outcome for the first scenario (top-down) contrary to the prediction, it stays unclear how meaningfully this result can be interpreted. It is possible that the result is not due to the emphasized participation and values on abstract level but rather due to a generally higher level of acceptability of the energy project in the present sample.

In the third scenario (participation without values, H3c), it was visible that the more people accepted the concrete energy project, the more they also wanted to participate in concrete-level decision-making. Thus, not the opponents but the supporters were "overparticipating" in this scenario. When assuming that the number of participants was not sufficient for the effect of H3a to become apparent and thus, H3b would be confirmed as it was predicted, then the difference between the findings of scenario two (participation with values) and three (participation without values) could be explained by whether values were

emphasized. Supporters in this scenario might not feel like their values have been represented by the formerly participating citizens. Nevertheless, they still see that it is possible to voice their values as there was public participation in the decision-making process on abstract level. Making this process visible along the whole decision-making chain might make this clearer to them and thus, motivate them to participate. To clearly infer this, future studies need to investigate whether this pattern of findings can be replicated systematically.

Practical Implications

The present study aimed to address the disproportional participation of opponents of concrete energy projects in respective political decision-making.

With public participation at abstract level but no values being discussed, the supporters of the concrete energy project were more willing to participate at concrete level. Thus, supporters of a concrete energy project could potentially be moved to participate at concrete level when policymakers offer and emphasize that there was public participation already throughout the abstract decision-making process.

When an abstract-level decision was taken by the government of the country only, the finding of opponents being more willing to participate was close to significant. If this would become significant in future studies, this would imply that, abstract-level decisions should not be taken solely by the government but instead, with the public participating for making people engage in public participation driven by different motivations.

Finally, when public participation and a debate of values was being emphasized at abstract level, neither supporters nor opponents were more willing to participate. Emphasizing shared values within public participation at abstract level could form a middle ground towards no group being overrepresented in decision-making on concrete level that could be made use of within the communication of policymakers to citizens. This would however certainly need future research to be confirmed as it cannot be clearly inferred from the results of the present study.

Limitations & Directions for Future Research

The results of the present study are restricted in their generalizability by several aspects. Firstly, the number of participants needed was not reached. 250 participants were aimed for while only 175 people filled out the questionnaire completely. With such a lack of statistical power, the reliability and the chance of finding the detected effects in another random sample of people decreases substantially (Brysbaert & Stevens, 2018). In future research, this should be addressed by different recruitment strategies such as paid participant pools.

Further, the sample of participants was not representative for the general public usually asked to participate in such a process. This was on the one hand due to the questionnaire only available in English language. Translating the questionnaire into Dutch and German could have made it accessible to a more diverse sample. On the other hand, recruitment was carried out via private contacts and the university platform which led to participants being mostly female, studying or having studied psychology and being of a younger age (presumably around 20-30 years old on average). The former study (Perlaviciute & Squintani, 2023) that this project is based on was tied to a concrete decision-making process in a Dutch province. In this context, participants were recruited by sending them invitation letters and going from door to door which leads to different people participating. Future research should thus be conducted in a setting more comparable to the original study (Perlaviciute & Squintani, 2023), yielding to more realistic and generalizable results. Being performed in the participants' native language, a scenario study could be conducted in the context of an existing decision-making process for people to feel more affected by the issue at stake while still making use of the advantages of more controlled conditions of an experimental scenario study. In the present work, it was only people's willingness being assessed instead of actual behavior. A combination with an existing decision-making process would enable an evaluation of how many people then participated in reality.

Restrictions of the present study followed with respect to the experimental manipulation. Specifically in the first, top-down scenario, the manipulation did not seem to work as half of the participants assigned to this scenario failed the manipulation check. This could potentially be caused by the two separate levels of decision-making not being distinguishable. As most people who failed indicated that *citizens and the governing parties* were debating, they probably referred to them being asked to participate at concrete level as citizens participating. This led to a lower number of participants overall as well as to the number of participants not being distributed equally across scenarios. Pre-testing the questionnaire would have been beneficial to detect this earlier and adapt accordingly but was not performed due to time constraints. For a deeper understanding of whether people felt like their values have been represented in the scenario of the abstract decision-making process, this should have been asked directly. This was not implemented due to delays with the ethical approval and subsequent time constraints. Instead, it was only asked for values being the basis of the decision of expanding wind energy in their country.

The psychometric properties of the items of willingness to discuss pose a substantial limitation. While an initial calculation led to a bad reliability, the exclusion of the item having the biggest impact on this score, reliability of the scale was still questionable. The analysis including the items was however solely explorative and not part of the main theoretical model.

Further limiting is that participants differed strongly in the time needed to fill out the questionnaire. Especially SONA participants tended to finish quickly. Specifically for the participants assigned to the first scenario (top-down), this could have led to a lack of thorough understanding and thus, to failing the check questions. Accounting for this in advance, there was a built-in timer, so they needed to take at least 30 seconds for reading the scenario text, but they could still click through the following questions quickly leading to a potential lower

response quality. SONA participants however also participate in studies on a frequent basis and might be more trained to quickly absorb information and react to it.

In the present investigation, it was focused on wind energy. As wind energy is however, a very well-studied kind of renewable energy (Carley et al., 2020; Rand & Hoen, 2017; Solman et al., 2021), an adapted version of the study could also be conducted in the context of renewable energy sources that have been focused on less (Pellizzone et al., 2017; Scovell, 2022) investigating how former participation processes and people's values interact with their acceptability and willingness to participate in concrete-level decision-making related to these technologies.

Conclusion

The present research work aimed to address the finding that it is mainly opponents of concrete energy project participating in respective political decision-making processes. Striving for the engagement of people in these processes who are more diverse in their motivations, it was investigated whether emphasizing public participation and shared values as characteristics of the former, abstract-level decision-making process can be helpful. Looking at the total sample, neither people's acceptability nor the experimental scenario describing the abstract decision-making process were related to their willingness to participate at the concrete level. It was however shown that in case of highlighting only the existence of public participation but not shared values on abstract level, supporters of the concrete energy project were participating to a dominant extent. Limitations have to be taken into account when drawing inferences from the results. Future research should conduct follow-up studies with a larger sample size, in a context similar to the original study as well as with adaptations to one of the experimental scenarios. This can contribute meaningfully to an understanding of public participation as a more representative tool to include citizens into energy-related decision-making.

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Appendix A

A1: Recruitment Text

Environmental Psychology Research

You want to contribute to exploring the interaction between humans and their environment?

We are looking for participants for an online experiment in the field of environmental psychology!

As part of a Master thesis at the University of Groningen and the Leuphana University Lüneburg, a questionnaire study is being conducted on the topic of decision-making on renewable energies.

When participating, you will read a short text and answer some questions based on that.

The study will take about 10 minutes.

Click here to start: [LINK](#)

Thank you for your participation!

A2: Information Form

Information About the Research

Dear participant,

Thank you for your interest in participating in this research. The following text explains what the research entails and how the research will be conducted. Please take time to read the following information carefully. If any information is not clear, you can ask questions using the contact details of the researchers provided at the end of this letter.

Why do I receive this information?

As part of a Master thesis at the University of Groningen and the Leuphana University Lüneburg, a questionnaire study is being conducted on decision-making on renewable energies. As your individual point of view is very important for furthering insights and

advancing the existing knowledge on the topic, we are kindly asking you to fill out the following questionnaire.

Do I have to participate in this research?

Participation in the research is voluntary. However, your consent is needed. Therefore, please read this information carefully. Only afterwards you decide if you want to participate. If you decide not to participate, you do not need to explain why, and there will be no negative consequences for you. You have this right at all times, including after you have consented to participate in the research.

Why this research?

The main focus of this questionnaire is the production of renewable energies through wind energy. With this research project, we want to gain insights into people's points of views on renewable energies and decision-making around that. Even if you feel unfamiliar or insecure with your answers to certain questions, please choose the answer that is closest to your own opinion.

What do we ask of you during the research?

In the following, you will firstly be asked for consent to participate.

After that, you will read a scenario based on which you will indicate your opinion. There are no right or wrong answers, it is only about your personal point of view.

Please read the scenarios thoroughly and answer the questions truthfully by choosing the answer that corresponds to your opinion. Within the survey, you can only navigate to the next page but not to a previous page (there is no "back"-button available). Filling out the questionnaire will take you about 10 minutes.

How will we treat your data?

When filling out the questionnaire, we will ask for the following personal data: your gender, the approximate number of years you have lived in your current country of residence as well as the time you expect to stay in your current country of residence. However, for all of these questions, you can also choose to not give an answer. Besides that, no personal data will be assessed. By participating in this study, you are agreeing that your data is being processed for research purposes. After the completion of this research project, the data will be stored by the University of Groningen for min. 10 years. Only members of the University of Groningen will have full access to the data. When sharing data with external researchers and/or publishing data in scientific output, data will only be shared in fully anonymized form. Personal data will only be shared with external researchers if there is a collaboration agreement in place.

What else do you need to know?

You may always ask questions about the research: now, during the research, and after the end of the research. You can do so by emailing Carolin Freier: c.freier@student.rug.nl

Do you have questions/concerns about your rights as a research participant or about the conduct of the research? You may also contact the Ethics Committee of the Faculty of Behavioural and Social Sciences of the University of Groningen: ec-bss@rug.nl.

Do you have questions or concerns regarding the handling of your personal data? You may also contact the University of Groningen Data Protection Officer: privacy@rug.nl.

A3: Consent Form

Informed Consent

- I have read the information about the research. I have had enough opportunity to ask questions about it.
- I understand what the research is about, what is being asked of me, which consequences participation can have, how my data will be handled, and what my rights as a participant are.
- I understand that participation in the research is voluntary. I myself choose to participate. I can stop participating at any moment. If I stop, I do not need to explain why. Stopping will have no negative consequences for me.
- I am 18 years old or older.
- Below I indicate what I am consenting to.

Consent to participate in the research:

Yes, I consent to participate; this consent is valid until 24/05/2024.

No, I do not consent to participate

Consent to processing my personal data:

Yes, I consent to the processing of my personal data as mentioned in the research information. I know that until 24/05/2024, I can ask to have my data withdrawn and erased. I can also ask for this if I decide to stop participating in the research.

No, I do not consent to the processing of my personal data (which means you can unfortunately not participate).

Consent to being 18 years old or older:

Yes, I am 18 years old or older.

[] No, I am not 18 years old or older.

A4: Sociodemographic Data

Gender

Which gender do you identify with?

- Female
- Male
- Non-Binary
- Other: _____
- I don't want give an answer

Years of Past Residency

For how many years have you lived in the country you live in at the moment?

- for less than 1 year
- for 1-5 years
- for 5-10 years
- for more than 10 years
- for my whole life
- I do not want to give an answer

Years of Future Residency

How long do you intend to stay in the country you live in at the moment? Even if you are not fully decided about that, please indicate your current estimate.

- for another <1 year
- for another 1-5 years
- for another 5-10 years

- for more than 10 years
- I do not want to give an answer.

A5: Debriefing Form

Debriefing Information

Dear participant,

Thank you for participating in this research!

Your participation has helped us to make progress with our knowledge about public participation in the context of renewable energies.

Purpose of the Study

The main objective of our study is to investigate how people with different perspectives can be motivated to participate in decision-making on energy when decisions become more concrete (e. g., concerning your municipality). For examining that, we initially presented every participant with one out of three hypothetical scenarios describing how a decision-making process concerning the whole country (i. e., making the country more sustainable) led to a decision-making process in your municipality. The three scenarios, of which you read only one, differed in the way that the decision concerning the whole country was being made. This process did either not include public participation at all, included public participation with people agreeing on shared values or included public participation but without any information given on values.

Research Question and Hypotheses

In order to study how people with different perspectives can be motivated to participate in decision-making on energy in their municipalities, we want to answer the following research question:

How does the existence of public participation and an agreement on shared values on the abstract level of decision-making influence citizens' willingness to participate in decision-making on renewable energies on the concrete level?

Previous research has found that people are more willing to participate in decision-making on energy in their municipality when they are against the project and do not accept it. We want to explore how different descriptions of previous decision-making processes on a more abstract country-level influence the willingness to participate in decision-making on a more concrete municipality-level. Hereby, we assume that highlighting the existence of prior participation practices and an agreement on shared values weakens the effect that mainly opponents of a project are willing to participate. Consequently, we assume that a group more balanced in their motivations wants to participate.

As already described previously, you have the right to withdraw your consent for participating at all times. If you decide not to participate, you do not need to explain why, and there will be no negative consequences for you.

You can do so by emailing Carolin Freier: c.freier@student.rug.nl

Complaints

If you have complaints about this study, and you cannot come to an agreement with the researcher, please contact the secretary of the Ethical Committee of the Faculty of Behavioural and Social Sciences of the University of Groningen.

Ethics Committee of the Faculty of Behavioural and Social Sciences of the University of Groningen: ec-bss@rug.nl

At any time, you also have the right to file a complaint with the Data Protection Officer (DPO) of the University. If you have any concerns or queries, please contact the DPO:

University of Groningen

P.O. Box 72

9700 AB Groningen

Central Office for Privacy Email: privacy@rug.nl

A6: Acceptability of the Local Project

To what extent do you think the expansion of wind energy in your municipality is...

-3 very unacceptable

3 very acceptable

-3 very bad

3 very good

-3 very negative

3 very positive

-3 very unnecessary

3 very necessary

from: Liu, L., Bouman, T., Perlaviciute, G., & Steg, L. (2019). Effects of trust and public participation on acceptability of renewable energy projects in the Netherlands and China.

Energy Research & Social Science, 53, 137-144.

A7: Willingness to Participate

Would you want to participate in this decision-making process on the wind energy project in your municipality?

1 - not at all willing to participate

7 - extremely willing to participate

In case anything else has been chosen but 1 for the previous question:

How would you want to participate in this decision-making process on the wind energy project?

To what extent do you find it desirable to...

... be informed about the wind park

...have a say about the wind park

...co-decide with fellow citizens and the leading politicians of your municipality about the wind park

...citizens decide on their own about the wind park

1 - not at all desirable

7 - very desirable

from: Perlaviciute, G., & Squintani, L. (2023). Time to talk about values, time to say no:

What drives public participation in decision-making on abstract versus concrete energy projects?. *PLOS Climate*, 2(8), e0000228.

A8: Experimental Manipulation: Description of Scenarios

Scenario 1 (No Participation on Abstract Level, No Value Debate)

Please imagine the following scenario:

The government of the country you live in wants to make the country more sustainable. In order to do this, **there was a parliamentary debate** on this topic in which every political party could express their point of view. After an extensive debate, the government decided

that the country should rely on renewable energies to a bigger share and that **wind energy shall be expanded** within the whole country, including the municipality you live in.

Now, wind energy projects have to be developed more concretely within the municipalities. For doing so, the municipality wants to include the opinions of their citizens. That's why, the **municipality you are living in asks their citizens and therefore also you, to participate** in the decision-making process on the expansion of wind energy within the municipality. Citizens are invited to **monthly meetings in the townhall** to discuss the project and its implementation with the municipality. When participating, your input will definitely be listened to and taken into account as a serious recommendation for the wind energy project.

Scenario 2 (Participation on Abstract Level, Value Debate)

Please imagine the following scenario:

The government of the country you live in wants to make the country more sustainable. In order to do this, the country's parliament asked for **input** on this topic **from a group of citizens** representative for the population of your country in terms of e. g., their education levels, age, and political attitudes. This **group of citizens as well as the country's parliament had a debate** on this topic in which every party could express their point of view. After an extensive debate, the group of citizens and the governing parties **agreed upon a set of values important to them**, including: the protection of nature, the well-being of society as a whole, people's individual resources as well as the joy and pleasure people experience. Taking these values into account, they decided that the country should rely on renewable energies to a bigger share and that **wind energy shall be expanded** within the whole country, including the municipality you live in.

Now, wind energy projects have to be developed more concretely within the municipalities.

For doing so, the municipality wants to include the opinion of their citizens. That's why, the **municipality you are living in asks their citizens and therefore also you, to participate** in the decision-making process on the expansion of wind energy within the municipality.

Citizens are invited to **monthly meetings in the townhall** to discuss the project and its implementation with the municipality. When participating, your input will definitely be listened to and taken into account as a serious recommendation for the wind energy project.

Scenario 3 (Participation on Abstract Level, No Value Debate)

Please imagine the following scenario:

The government of the country you live in wants to make the country more sustainable. In order to do this, the country's parliament asked for **input** on this topic **from a group of citizens** representative for the population of your country in terms of e. g., their education levels, age, and political attitudes. This **group of citizens as well as the country's parliament had a debate** on this topic in which every party could express their point of view. After an extensive debate, the group of citizens and the governing parties decided that the country should rely on renewable energies to a bigger share and that **wind energy shall be expanded** within the whole country, including the municipality you live in.

Now, wind energy projects have to be developed more concretely within the municipalities. For doing so, the municipality wants to include the opinion of their citizens. That's why, the **municipality you are living in asks their citizens and therefore also you, to participate** in the decision-making process on the expansion of wind energy within the municipality. Citizens are invited to **monthly meetings in the townhall** to discuss the project and its implementation with the municipality. When participating, your input will definitely be listened to and taken into account as a serious recommendation for the wind energy project.

A9: Identification with Participating Citizens

I identify with the group of citizens that debated with my government initially on how to make the country more sustainable.*

1 (fully disagree)

7 (fully agree)

*This item was used only for participants in Scenario 2 and 3.

from: Postmes, T., Haslam, S. A., & Jans, L. (2013). A single-item measure of social identification: Reliability, validity, and utility. *British journal of social psychology*, 52(4), 597-617.

A10: Willingness to Discuss

I try to look at a situation such as the wind energy project from different points of view before I make a decision.

In my opinion, searching extensively for all existing arguments before deciding something in a context such as the wind energy project is a waste of time.

When someone has a different opinion on a topic such as the wind energy project than I have, I am trying to put myself into their position to understand where they are coming from.

1 (fully disagree)

7 (fully agree)

from: Perlaviciute (unpublished)

A11: Attention & Manipulation Check

In the following, we want to ensure that you have fully understood the text.

Please answer the following questions based on what you have just read:

Scenario 1

Who debated on a strategy to make your country more sustainable?

- a group of citizens only
- a group of citizens and the governing parties of the country
- the governing parties of your country only

What was decided to be expanded in your country for a transition towards sustainability?

- vegan food
- electric vehicles
- wind energy

Scenario 2

Who debated on a strategy to make your country more sustainable?

- a group of citizens only
- a group of citizens and the governing parties of the country
- the governing parties of your country only

What did they base their decision on?

- the financial resources available to the country
- a statement on the topic of the country's leading group of politicians
- a set of values important to them

What was decided to be expanded in your country for a transition towards sustainability?

- vegan food
- electric vehicles
- wind energy

Scenario 3

Who debated on a strategy to make your country more sustainable?

- a group of citizens only
- a group of citizens and the governing parties of the country
- the governing parties of your country only

What was decided to be expanded in your country for a transition towards sustainability?

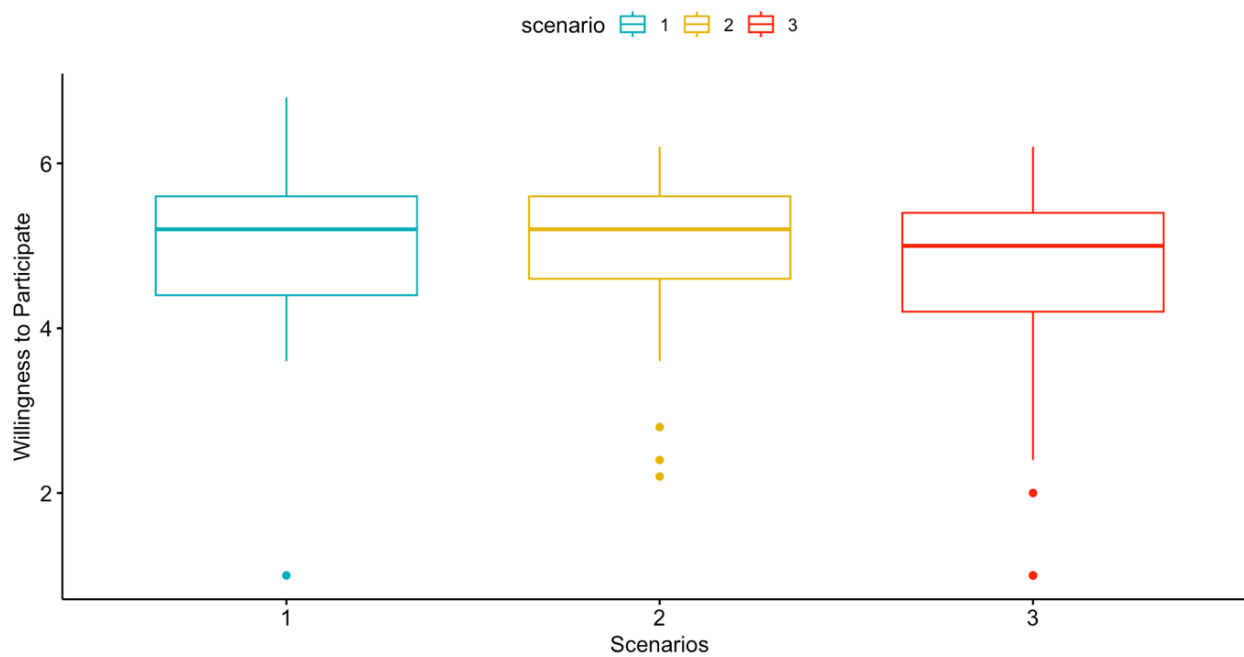
- vegan food
- electric vehicles
- wind energy

Appendix B

Figure B1

Boxplots Depicting the Five-Number Summary of Participants' Willingness to Participate

According to the Three Scenarios



Note. Scenario 1 = Top-Down, Scenario 2 = Participation with Values, Scenario 3 = Participation without Values.

