How Perceived Level of Voice in Public Participation Connects to Acceptability of the Decision-Making Process and Discussing Value Consequences

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Abstract

Implementing environmental policies provokes resistance from the public. Therefore, public participation procedures are highly relevant for involving the public in decision-making processes. Specifically, we are interested in the relationship between discussing value consequences of a proposed carbon tax policy in a public participation procedure and one's perceived voice (i.e., having a say). Perceiving voice influences attitudes towards the decision-making process. We suggest that participants would be more accepting of the decision-making process when perceiving higher voice. Expect is that discussing multiple value consequences, will lead to higher perceived level of voice and that discussing one's predominant value consequences compared other consequences will result in perceiving more voice. We conducted a study (N=108) in which participants were asked to imagine their presented public participation scenario, in which certain value consequences of carbon tax policy were discussed. The value consequences were either environmental, personal or 'both'. Results showed a positive relationship between perceived level of voice and acceptability of the decision-making process. No difference in perceived level of voice was found between being presented only environmental or personal consequences compared to both. Also, no effect was found of predominant values on the relationship between the scenario presented and perceived level of voice. Thus, perceived level of voice in public participation is relevant to the acceptability of the decision-making process. However, discussing multiple values in public participation seems to have no effect on perceived level of voice. Also, people's predominant values did not influence the relationship between the consequences discussed and perceived level of voice.

Keywords: public participation, decision-making process acceptability, values, perceived level of voice, sustainable policy

The influence of perceived level of voice on carbon tax acceptability through public participation

The most recent IPCC (2021) climate report shows once again the urgency regarding climate change. Interestingly, this report did not differ much from the first report in 1990. Humanity is causing global warming and we need to act fast to prevent and reduce harm to our planet. Since that first IPCC report, a lot of sustainable initiatives have been taken and researchers have come up with exceptional projects to reduce the greenhouse emissions, for example, the first Dutch solar park "The midden Groningen project" (Chint Solar & Powerfield, 2019). Furthermore, one of greatest storm barriers, the Delta works, help to protect the Netherlands from floods partly due to the rising sea level (Ministry of Infrastructure and Water Management, 1997).

Unfortunately, these sort of sustainable projects, along with many others, seem to result in public resistance. For example, Powerfield planned a solar park in Wanneperveen, but because of some serious resistance from the citizens, this was placed farther away from the village, and it still was causing resistance. Which, of course, is not desirable when fast and large upscaling of such initiatives is necessary. Interestingly, a similar village approached their energy transition differently through local initiatives, which has not resulted in any resistance (Hoekman, 2021). Which, of course, is not desirable when fast and large upscaling of such initiatives is necessary.

Thus, introducing sustainable initiatives can cause negative emotions. An important factor causing this resistance, is a feeling of threat to people's values. The stronger one's values, the more likely someone is to respond emotionally to policy initiatives (Perlaviciute et al., 2018). To specify the term 'values', we will use the definition by Schwartz & Bilsky (1987, p. 4): 'Concepts or beliefs, about desirable end states or behaviors, that transcend specific situations, guide selection or evaluation of behavior and events, and are ordered by relative importance'.

One solution that might decrease the resistance and increase the acceptability of sustainable initiatives, is public participation (National Research council, 2008). We define public participation as the contribution of the public in the planning, development, implementation, management, and assessment of a presented policy (Perlaviciute, 2019).

In public participation, the extent to which people feel as if they can voice their opinions influences their acceptability the decision-making process. We define 'acceptability of the decision-making process' as perceiving the process as fair, open, transparent, and representing different interests (Liu et al., 2020). Being informed and having a say about a sustainable energy policy is important to participants (Perlaviciute & Squintani, 2020). Additionally, a bottom-up approach (i.e., letting local citizens address and discuss environmental problem by giving them voice) seems to increase local acceptability (Carolus, 2018). This provides support for investigating the role of perceived level of voice in public participation.

In this paper we define 'perceived level of voice' as following: 'The extent to which people feel as if they can express their opinions, feel involved and the extent to which their opinion is taken into consideration in the decision-making process' (Peterson, 1999). This term will be used when referring to other studies investigating the same construct, but use different wordings such as perceived influence, having a say, being heard, involvement or engagement.

Therefore, to further examine the benefits of public participation for introducing policies and to increase the public acceptability of decision-making processes, this research aims to investigate whether perceived level of voice influences the acceptability of decision-making processes. Furthermore, we look at the role that personal values play regarding perceived level of voice, an interesting relationship which has not been studied yet.

Level of voice and decision-making process acceptability

It is not clear yet what all the precursors are for higher projects acceptability, however public participation in decision-making is critical (Liu et al., 2020). Decision-making process

acceptability is an important determinant for attitudes towards projects (Firestone, 2018). Known is that acceptability of the decision-making process is higher when people are involved (Jacquet, 2015). Therefore, one could expect that public participation in decision-making processes results a higher perceived higher voice. Being able to voice your opinion in public participation may increase decision-making process acceptability (Liu et al. 2021). Additionally, project acceptability has been studied often, but not much attention has been paid to decision-making process acceptability.

Furthermore, it is also relevant to mention that decision-making process acceptability does not necessarily correlate to project acceptability. For example, regarding public participation for a sustainable project, one could be accepting towards the decision-making process, because participants think it is fair, open, transparent, and representing different interests, but still be opposed to the project. Furthermore, providing people voice in public participation could result in that one uses that voice to substantiate their argument against a project. Therefore, it is important to study those constructs separately. For this reason, this study focusses on perceived level of voice in relation to acceptability of the decision-making process.

Previous research found a relationship between perceived level of voice and decision-making process acceptability. Firestone et al. (2018) showed that voice is a significant predictor for accepting the decision-making process. When participants were being made aware of a potential project, they felt heard and had more positive attitudes towards the process. Another study showed how participants perceived the process to be fairer, which is part of how we define acceptability of the decision-making process, when they were given voice over major aspects of the decision-making process (Liu et al., 2020). This, regardless of the perceived relevance of the project for the participant or whether the participant was asked to participate themselves or not. Which illustrates the strength of simply giving participants voice in public participation. Additionally, providing participants with shared influence would lead to higher decision-

making process acceptability (Liu et al., 2021). Additionally, 'the ability for residents to affect outcomes', which is part of perceived level of voice, tis found to be the key to perceiving the ability for people to participate as equals in the decision-making process (Walker & Baxter, 2017). Thus, in the light of our study, we expect that perceiving higher voice yields in an increase in public acceptability of the decision-making process.

However, providing participants with full voice does not make them more accepting towards the decision-making process, possibly because the participants do not perceive themselves to have enough expertise nor capable enough for such decisions. Participants perceived a combination of both experts and citizens in a panel as being most capable and would therefore be more accepting towards the decision-making process (Liu et al., 2021).

Thus, in line with this theorizing, our study will explore the relationship between perceived voice and decision-making process acceptability. Which is expected to correlate positively.

Hypothesis 1. The more people perceive to have a voice in public participation, the more they will be accepting towards the decision-making process.

Values and Perceived Level of Voice

As mentioned earlier, values play a significant role in public participation. Environmental policies can provoke strong reactions, which arise from personal values (Perlaviciute et al., 2018). Therefore, public participation could best involve both facts and values (Dietz, 2013). Nevertheless, most policy makers do not consider values when designing public participation procedures. However, some substantial research has been done on the role of values in decision-making processes.

For one, a feeling of threat can result in activism, or resistance, depending on one's strongest values (Stern et al., 1999). Dietz (2013, p.14081) refers to values being 'at the core of much of our understanding of environmental concern'. Furthermore, values influence people's

evaluations of energy alternatives in public participation procedures. Specifically, biospheric and egoistic values, which affect attitudes and beliefs about sustainable energy projects significantly (Perlaviciute & Steg, 2015).

All mentioned findings have emphasized the importance of using values in public participation and their role in people's attitudes towards environmental policies and behaviors. We are not interested in conducting a similar study exploring values and their relationship with acceptability of the policy or the decision-making process. Rather, this study aims to broaden our knowledge about values in public participation and what other possible relationships can be found. Therefore, we will explore the relationship between personal values and perceived level of voice in public participation. None of the studies regarding perceived level of voice, mentioned in the previous sections, looked at a possible relationship between values and perceived level of voice. However, providing participants with the opportunity to voice their opinions, correlates with more positive attitudes towards the decision-making process (Firestone et al., 2018; Liu et al., 2020, 2021). Thus, both perceiving voice and the use of values, have at least to some extent a positive relationship with public participation procedures.

To get an image of the connection between values and perceived level of voice that is expected, it is important to say something about the experimental design of this study. For the manipulation integrate biospheric and egoistic values, based on the article of Steg & De Groot (2012). These two values can result in opposing attitudes and beliefs about sustainable energy policies. A carbon food tax is proposed through different public participation scenarios. These scenarios will discuss either environmental, personal, or 'both' (i.e., environmental and personal) consequences of the carbon tax. Whereas, due to someone's predominant values, biased perceptions can occur about the consequences the carbon tax has on them (Perlaviciute & Steg, 2015). We expect predominant values to influence the decision-making in public participation. Therefore, it is interesting to look at how values are presented differently through

the public participation scenarios and its possible influence on, in the case of this research, perceived level of voice.

First, we expect those who are in the 'both' consequences public participation scenario, to perceive more voice compared to the other two scenarios. Regardless of one's predominant value, people own a palette of different values. For example, saving money is also relevant for people with higher biospheric values. Thus, we suspect people to perceive more voice, because this will encompass more consequences which are relevant to someone. Therefore, we think this indicates a relationship between the amount of voice someone perceives, and what value consequences will be presented in the public participation procedure.

Moreover, we expect participants who are in the consequence scenario that corresponds more to one's predominant value, to perceive more voice than those who are, compared to their predominant value, in a less corresponding scenario. This expected relationship can be explained by an example: someone's egoistic values is higher than their biospheric values. This could indicate that they value personal well-being. When presented with a personal consequence, such as '*Increased individual well-being due to reduced pollution of water and air*' we suspect a person to feel more heard, involved and understood (i.e., voice), compared to when they are presented an environmental consequence, such as '*Less deforestation*'. Along these lines, we assume that someone who discusses the consequences of the carbon tax, which is corresponding to their predominate value, perceives higher levels of voice.

However, no research has been done yet concerning the relationship between values in public participation and perceived level of voice. Which makes discovering a possible new relationship more interesting, but also indicates a certain risk. For example, we are not able to replicate or use the same methods as previous research regarding that relationship nor could we integrate lessons learned from other studies. However, the fact that the proposed relationship is

not studied yet, is exactly the reason why it is interesting to do so and gain new insights in how to integrate public participation in decision-making processes.

Therefore, we aim to investigate how the use of values in public participation scenarios will influence participants' perceived level of voice. Altogether, this study will provide new insights regarding the use of public participation procedures for decision-making. Which is shown to be highly effective for involving citizens in decision-making.

Hypothesis 2. Those who are presented the 'both' consequences scenario (i.e., environmental and personal) of implementing the carbon food tax, will perceive to have more voice than those who are only presented environmental or personal consequences of the carbon food tax.

Hypothesis 3. Those with predominantly higher biospheric values in the environmental consequences of the carbon food tax scenario, will perceive to have more voice than those who have high biospheric values in the personal consequences condition.

Hypothesis 4. Those with predominantly higher egoistic values in the personal consequences of the carbon food tax scenario, will perceive to have more voice than those who have high egoistic values in the environmental consequences condition.

Method

Participants and Design

The sample was recruited within the researchers' social networks by means of sharing the survey via WhatsApp private messages and group chats, Instagram stories, and email. Utilizing the snowballing method, participants were invited to further distribute and share the questionnaire within their own social networks. Data collection took place from 17.11.2021 to 29.11.2021. The online questionnaire was accessible through a generated link to the digital survey platform Qualtrics.

Out of 202 recorded responses, we included 108 participants in our main analysis.[1] Participants who left more than three questions unanswered or those who did not answer the second attention check correctly, were excluded. The sample consisted of 74 females and 34 males. The participants' average age ranged from 17 to 63 (M = 25.4, SD = 10.64). Most participants were Dutch (71.3%) or German (14.8%). The most common educational level in our sample was bachelor's degree (60.2%), followed by master's degree (22.2%) and high school (14.8%).[2]

In our between-subjects experimental design, participants were randomly assigned to three different public participation conditions. Depending on the experimental condition, participants were informed they would discuss environmental, personal, or both environmental and personal (combined) consequences. Participants were randomly assigned to one of the three conditions using the "evenly present elements" in Qualtrics, which makes sure that there are approximately the same number of participants in each condition. The "Environmental" condition had 38 participants, the "Personal" condition 36 participants, and the "Combined" condition 34 participants.[3] In each condition, examples of two positive and two negative consequences of the carbon tax policy were given.

An a-priori power analysis based on a one-way Covariate Analysis of Variance (ANCOVA) showed that 111 participants were required to achieve a large effect size (= .3) and power .80%. In the case of this research, this requirement was not met.

Manipulation of Public Participation

[1] The analysis is also conducted on a smaller sample which excludes participants that failed both attention checks. For the data with people who did not pass any attention check excluded, we included 61 participants in our analysis.

[2] That sample (N=61) consisted of 44 females and 17 males. The average age ranged from 17 to 56 (M = 23.7, SD = 6.7). Most participants were Dutch (68.9%) or German (14.8%). The most common educational level in our sample was bachelor's degree (62.3%), followed by master's degree (24.6%) and high school (13.1%).

[3] For the sample with 61 participants the 'environmental' and 'personal' consequences condition consisted both of 15 participants and the 'both' consequences condition consisted of 31 participants.

The participants were instructed to imagine a scenario saying that their government is considering the implementation of a carbon tax on food due to the increasing urgency of reducing carbon emissions to meet the requirements of the Paris agreement (see Appendix A for the exact text of the scenarios). Further, participants read that their government intends to engage the public in the decision-making process about the policy and hence invites people to a meeting to discuss the implementation of the carbon tax. This, to simulate a situation where the government wants to involve the public in the decision-making policy, to possibly improve the project acceptability. Depending on the experimental condition, participants learned that in such public meetings different consequences of the food tax policy will be discussed. Specifically, in the environmental public participation condition, environmental consequences (e.g., less deforestation) of the carbon tax on food were proposed to be discussed in the public meeting. In the personal public participation condition, personal consequences (e.g., ensuring personal safety) of the carbon tax on food were proposed to be discussed. In the combined public participation condition, both environmental and personal consequences of the carbon tax on food were proposed to be discussed. In each condition, examples of two positive and two negative consequences of carbon food tax were given. Also, it was mentioned that the government will consider the public's opinion in their definitive decision about the carbon tax. Moreover, to strengthen our experimental manipulation the participants were asked to list some consequences, either environmental, personal or both (according to their condition) of the carbon tax that they could discuss in the meeting.

Procedure and Materials

The participants could fill in the survey on their own, using their laptop, desktop, smartphone, or tablet. Participants were able to contact one of the researchers, when there were questions before, during or after finishing the survey. Participation was voluntary, with no rewards granted, and participants were asked for their informed consent. The survey exclusively

consisted of self-reports. Filling out the questionnaire took about 15 minutes. Lastly, respondents were presented with the debriefing and a link for further sharing the questionnaire. Our research was ethically approved by the Ethics Committee Psychology of the University of Groningen.

The survey was constructed in the following manner and order. As this paper is part of a group project, additional measures were included in the survey; here, only the measures relevant to the present paper will be described.

Demographics. Participants were asked to indicate their age, gender, nationality, and educational level.

Values. The value orientation of the participants was measured using a short version of Schwartz's value scale (1992). The shortened scale consists of 16 items on a 9-point scale developed by De Groot and Steg (2012). Respondents were showed a list of values and were asked to rate them based on whether they were guiding principles in their lives. Only the items regarding biospheric and egoistic measures were used for this study, for example, preventing pollution: protecting natural recourses (from -1= *opposed to my values* to 7= *of supreme importance*) or social power: control over others, dominance (from -1= *opposed to my values* to 7= of *supreme importance*). The sixteen items were used to measure the score on four different values, namely biospheric, egoistic, hedonistic, and altruistic values. The biospheric value comprised four items and the egoistic value compromised five items. The mean responses on each value were combined to form the score on each value. Biospheric values displayed good reliability with a Cronbach's alpha of α = .893 (*M* = 5.058, *SD* = .49). Similarly, egoistic values displayed acceptable reliability with Cronbach's alpha of α = .684 (*M* = 2.561, *SD* = 1.39).[4]

[4] For the sample with 61 participants biospheric values showed acceptable reliability α = .89 (*M* = 5.1, *SD* = 1.4). Egoistic values showed acceptable reliability with Cronbach's alpha of α = .71 (*M* = 2.6, *SD* = 1.3).

Perceived level of voice. To measure respondents' perception of their level of voice, we included two items on a 7-point Likert scale. We chose to use the following two items to provide a more inclusive and encompassing, and therefore a more reliable, view of the respondents' perception of level of voice. De Cremer, Cornelis, and Van Hiel (2008) measured voice among other things through asking to what extent participants felt they received voice public participation. Additionally, Peterson (1999) used an item to measure perceived voice by asking participants to what extent they thought their group leader considered participants' point of view. We changed the wording of the items such that they are more corresponding to this study and each other. Consequently, the items were about whether they felt as if they were able to voice their opinions on the carbon tax policy (1 = *strongly disagree* to 7 = *strongly agree*) and whether the participants felt as if their opinion about the carbon tax policy would be taken into consideration by their local government (1 = *strongly disagree* to 7 = *strongly agree*). The mean responses on each question were combined to form the perceived level of voice scale; higher scores indicate more perceived level of voice (*Cronbach's alpha=.574; M= 4.231; SD=.485)*[5].

Acceptability of the decisiongon-making process. To measure the acceptability of the decision-making process we used only one item from a 7-point Likert scale from Liu et al. (2021). This item is suspected to be most correlating to the acceptability of the decision-making process because it uses the same wording. Additionally, due to the length of the survey and the risk of participants losing interest or focus we chose to only use this item. Namely, the extent to which participants think that the decision-making process during the public participation procedure was acceptable (1 = *very unacceptable* to 7 =*very acceptable*). The mean score of this item reflects the degree to which people found the decision-making process acceptable. Higher scores indicate more decision-making process acceptability (*M=5.03; SD=1.224).*[6]

[5] For the sample with 61 participants perceived level of voice showed *Cronbach's alpha=.47; M= 4.221; SD=1.07.*

[6] For the sample with 61 participants: *M=5.2; SD=1.176.*

Attention checks. To check whether participants read the scenarios regarding public participation carefully, they were asked "According to the text you just read, what type of consequences of the carbon tax on food will be discussed in the public meetings?". Answer possibilities were "Environmental consequences" (the right answer in the environmental public participation condition), "Personal consequences" (the right answer in the personal public participation condition) or "Environmental and personal consequences" (the right answer in the combined public participation condition). Results showed that in the final sample, 23 participants in the environmental condition, 21 people in the personal condition, and 3 people in the combined condition answered this question incorrectly. It could be that many participants who were not sure about the answer chose the "both environmental and personal consequences" option. Additionally, respondents may have found it unrealistic that, in public participation, one could only discuss one type of consequences. Because of the high number of wrong answers, we did not exclude all participants who failed to provide the right answer. A closer look at the data showed that those participants can still be assumed to have answered the remaining questions attentively and seriously. However, this might indicate a limitation to the strength of our manipulation. In the final analysis, we excluded participants who failed to provide the right answer for the experimental condition they were assigned. As for the second attention check, halfway through the survey the participants were asked if they were still paying attention and to mark the answer option 'somewhat disagree'. Participants who chose another answer option were excluded from the final analysis.

Results

All analyses were conducted for both the sample with participants who did not pass the first attention check included (N=108), as well as the sample with participants who did not pass both attention checks excluded (N=61). The results of the sample with 108 participants

will be reported in the following text and the results from the smaller sample will be added in footnotes.

Relationship between perceived level of voice and acceptability of the decision-making process

To analyze whether perceived level of voice an effect on the acceptability of the decision-making process, a simple linear regression analysis was performed. Overall, the simple linear regression showed a significant effect between perceived level of voice and the acceptability of the decision-making process $R^2 = .072$, $F(1,105) = 8.178$, $p = .005$. Thus, when a participant scores higher on perceived level of voice, the acceptability of the decision-making process increases ($\beta = .304$, $t = 2.860$, $p = .005$).[7] As expected, higher perceived voice was associated with higher acceptability of the decision-making process.

Relationship between different public participation conditions and perceived level of voice

A one-way ANOVA analysis was conducted to explore whether there is a difference in perceived level of voice between the three public participation conditions with biospheric or egoistic or both consequences presented.

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[7] The simple linear regression for the analysis of the sample with 61 participants shows a marginal statistically significant effect $R^2 = .058$, $F(1,58) = 3.589$, $p = .063$. Thus, participants' perceived level of voice did marginally predict the acceptability of the decision-making process ($\beta = .264$, $t = 1.894$, $p = .063$). Thus, similar results between the two analyses were found on whether participants' perception of level of voice in public participation procedures effects the acceptability of the decision-making process. This will be elaborated on further in the discussion.

The analysis of the sample with 108 participants showed there was no significant difference found between the public participation conditions on perceived level of voice $F(2,105) = .346$, $p = .708$, $\eta_p^2 < .01$. Different from what I expected, discussing different values in public participation did not lead to more perceived voice than discussing only one type of value in public participation.[8]

Effect of values on relationship between public participation condition and perceived level of voice

Two one-way ANCOVA analysis were performed to test the effect of participants' biospheric- and egoistic values on the relationship between the public participation condition participants were randomly placed in, and the perceived level of voice. Preliminary checks were conducted, and all the assumptions were met.

Overall, for the analysis of the sample with 108 participants the one-way ANCOVA analysis with biospheric pre-measured values as a covariate did not show a significant effect $F(1,102) = 1.931$, $p = .168$, $\eta_p^2 = .01$. Additionally, no interaction effect between biospheric values and the public participation condition was found $F(2,102) = 1.711$, $p = .186$, $\eta_p^2 = .032$.

The one way ANCOVA with egoistic per-measured values as covariate also did not show statistical significance $F(1,102) = .280$ $p = .598$, $\eta_p^2 < .01$. Also, no significant interaction was found between egoistic values and the public participation condition $F(2,102) = .534$, $p > .05$, $\eta_p^2 = .01$.[9]

[8] The analysis with 61 participants showed similar results $F(2,58) = .065$, $p = .937$, $\eta_p^2 < .01$..

[9] For the analysis of the sample with 61 participants the one-way ANCOVA analysis with biospheric pre-measured values as a covariate did not show a significant effect $F(1,55) = 1.764$, $p = .535$, $\eta_p^2 < .01$. Additionally, no interaction effect between biospheric values and the public participation condition was found $F(2,55) = 1.189$, $p > .05$, $\eta_p^2 = .041$. The one way ANCOVA with egoistic per-measured values as covariate also did not show statistical significance $F(1,55) = .001$ $p = .976$, $\eta_p^2 < .01$. Also, no significant interaction was found between egoistic values and the public participation condition $F(2,55) = .111$, $p > .05$, $\eta_p^2 < .01$. Thus, no significant mean- and interaction effects for biospheric or egoistic values on the relationship between the public participation conditions and the perceived level of voice were found.

Thus, no mean effect nor interaction effects between the conditions and the values were found. Therefore, the data does not support the hypothesis that the public participation condition more congruent to participants values would result in a higher perceived level of voice.

Discussion

In our study we explored discussing different value consequences in a public participation procedure. Specifically, I examined whether perceived level of voice in public participation, influenced one's acceptability of the decision-making process. Additionally, I studied how discussing values in public participation procedures affects participants' perceived level of voice.

The results show that perceived level of voice influenced the acceptability of the decision-making process significantly. When participants perceived higher level of voice, the acceptability of the decision-making process increased. Therefore, the data provided support for hypothesis 1. Contrary to our expectations, the findings revealed no significant relationship between discussing the different value consequences and participants' perceived level of voice in the public participation procedure. Being presented both environmental and personal consequences of the carbon tax policy, did not result in higher perceived voice compared to being presented with one type of value consequence. Therefore, data did not support hypothesis 2. Furthermore, unexpectedly, people's personal values did not influence the relationship between the consequences condition participants were in and their perceived level of voice. Therefore, hypotheses 3 and 4 are not supported.

Theoretical and Practical Implications

This study has several theoretical and practical implications for both social and environmental psychology research, as well as for policy makers, such as municipalities or the government.

When considering the theoretical implications, perceived level of voice was positively associated with acceptability of the decision-making process. De Cremer, Cornelis, and Van Hiel (2008) found a similar relationship between voice and perceptions of procedural fairness, where perceiving the decision-making process to be fair is part of how we define acceptability of the decision-making process. They showed that people who were given voice, compared to those who weren't, strongly impacted perceived procedural fairness. Additionally, Liu et al. (2021) showed how participants perceived themselves to not have sufficient expertise to have full voice in the decision-making. Therefore, our study gave the participants voice similar to shared influence (Liu et al, 2021). Which, in their study showed the strongest relationship to acceptability of the decision-making process. Which is in line with our findings. However, the mentioned studies did not observe the exact same relationship, even though they are similar. Additionally, only a small number of studies focusses on the relationship between perceived voice and the acceptability of the decision-making process. Contrary to previous studies, our study design did not manipulate voice but still gave significant results. Thus, manipulation of voice is not necessary to increase acceptability of the decision-making process.

Regarding discussing value consequences in public participation procedures, no differences in perceived voice were found between discussing either one or two value consequences of the carbon tax policy. Additionally, predominant values did not influence the relationship between the presented value consequences of the carbon tax and perceived voice. However, contrary to our results, Perlaviciute (2019) showed how looking at the role of values in public participation, can help understand what implications sustainable policies have on people's values and their motives for engaging in public participation. Additionally, Schultz and Zelezny (2003) observed how changing environmental messages by anticipating personal values can influence how people respond to message. Which is how we manipulated the scenarios regarding the carbon tax policy. However, our results challenge those findings.

The studies mentioned consist of more heterogenic samples compared to our study. Most people in our sample are biospheric orientated, which causes them to be more in favor of the carbon tax. That could explain why the value manipulation did not change much of participants' perceived level of voice. Our findings could also suggest that people might not find it as important as expected how many and what value consequences are discussed. Perhaps, discussing any value consequence of a policy is already convincing enough for people to perceive enough voice. Therefore, the findings provide understanding concerning the role of values in public participation and how values, are not as influential for perceiving voice as expected. Future research should build forth upon our results.

This study provides relevant practical implications for policy makers in how to present a policy through public participation. Our results showed how perceived level of voice had positively related to acceptability of the decision-making process. Thus, giving people a clear and accessible opportunity to voice their opinions through a discussion, would probably relate positively with acceptability of the decision-making process.

Furthermore, the results showed no difference between discussing one or two types of value consequences on perceived level of voice. Perceived level of voice did not depend on whether participants' predominant values corresponded to the value consequences scenario. However, this does not imply that framing values in public participation procedures has no effect, because as previous research has shown, it can (Perlaviciute, 2019; Schultz & Zelezny, 2003). Nevertheless, our results imply that it does not matter how many value consequences of the carbon tax are discussed for perceiving voice. This is relevant for policy makers because the findings suggest that one should not assume that integrating more or corresponding personal values in public participation, will increase the perceived voice in public participation. Discussing any value consequence in public participation might already be sufficient for perceiving voice.

Limitations and Future Directions

One limitation of this study is that a high number of participants failed the attention checks. We ran the analysis with the sample with and without participants who failed the first attention check included, which gave no significant differences. Therefore, as explained in the method section, we decided to include those who failed the first attention check. Participants failing the first attention check, could be because of the manipulation not being realistic enough. The participants who failed the attention check overall answered that they discussed both value consequences, while being presented with one type of value consequence. For future research it is recommended to clarify the conditions better, so that participants will notice and remember what type of consequences were discussed. Additionally making it more realistic by integrating values by hosting actual in-person public participation discussions and proposing a real policy.

Another limitation is the homogeneity of the data. Regarding this study, this is due to most participants being highly educated young females. Additionally, participants' predominant value tended to be more biospheric. Due to the homogeneity, the external validity is lower. Meaning the results are less applicable to the overall population. Therefore, the results we found based on the sample might not be significant. It would have been interesting to observe the impact of the manipulation on a more diverse sample. To prevent the lack of diversity in future research, the researchers could choose not to use their own networks, but seek for a diverse sample through, for example, the municipality. Future research could study people who are initially less accepting towards sustainable energy projects.

The measures also showed some possible limitations to this study. The two items which measure perceived level of voice were based on different previous studies, as mentioned in the method section. We considered the items to cover perceived level of voice accurately, however other experiments have not yet been able to confirm the internal consistency of this measure. We measured internal consistency which showed no acceptable level. Therefore, the

relationship between perceived level of voice and acceptability of the decision-making process is less viable. In future research, the measure could be improved by adding items that reliably measure perceived level of voice. To observe the quality of the questions, we propose to run an item analysis to identify effective items and rule out others.

We have reasons to believe that we should have included altruistic values in our value measurement. After the value consequences discussion, participants were asked to write down value consequences they could think of themselves, and some reflected altruistic consequences. Therefore, our study could have included altruistic consequences and involve a broader audience. We promote future research to look at the impact of adding altruistic values in public participation procedures.

Another limitation is that participants perceived the study as too long. We tried to keep the survey concise, but the length and the number of items is due to this study being conducted by multiple researchers with different variables by their interest, which all needed to be included in the survey. Due to conciseness, the 'acceptability of the decision-making process' measure might not have high construct validity because we chose to use only one item, which we perceived as being the most representative for that construct. In future research, try to measure less variables by conducting several studies, or when working as a group of researchers, decide on a few variables instead of all wanting to study multiple variables.

Finally, concerning feedback that some things were hard to comprehend. This might be because of, unlike us, the participants did not read about this topic and the terminology before taking part of the experiment. For future research, the survey should be straightforward by not using jargon and taking the participants by the hand.

Conclusions

To involve the public in policy making and to improve acceptability towards environmental decision-making processes, public participation is an important tool (National

Research Council, 2008). However, public participation needs to be done properly to increase people's acceptability of the decision-making process.

This study aimed to investigate perceived level of voice in regards in relation to the acceptability of the decision-making process and personal values. The findings show that providing the public in policy making with voice, positively affects the acceptability of the decision-making process. We found no significant relationship between values and perceived level of voice. However, discussing any value consequence might be sufficient for perceiving voice. Bear in mind that this is the first study that specifically investigates that relationship. Further research is recommended to provide better understanding of how perceiving voice influences public participation procedures and how the use of values can be better substantiated in general, as well as in relation to perceived level of voice.

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Appendix A

Full text conditions

Biospheric condition

Due to the increasing urgency of reducing carbon emissions to meet the requirements of the Paris agreement, your local government is considering implementing a carbon tax on products like meat, cheese, avocados, bananas etc. A carbon tax on food is a policy that influences the price of food, based on how much carbon dioxide (CO2) is emitted through the production of these foods. To address any possible public concerns, the government will invite the public to a meeting to discuss the implementation of the carbon tax, aiming to find a well-adjusted consensus on the topic. The discussion will focus on the environmental consequences, of which a few are mentioned below.

The government will consider the public's opinion about the environmental consequences of the carbon tax on food in their definitive decision in January 2022 about whether the carbon tax is an appropriate measure to meet the Paris agreement.

Examples of environmental consequences of the carbon tax on food to be discussed in public meetings:

Positive consequences:

- Reduced global warming
- Less deforestation

Negative consequences:

- People may feel that they are entitled to consume high-carbon-emitting products if they can pay for them, which could lead to more purchases of such products
- Neglecting the effect of other greenhouse gasses like methane and water vapor that harm the environment even more

Personal condition

Due to the increasing urgency of reducing carbon emissions to meet the requirements of the Paris agreement, your local government is considering implementing a carbon tax on products like meat, cheese, avocados, bananas etc. A carbon tax on food is a policy that influences the price of food, based on how much carbon dioxide (CO2) is emitted through the production of these foods. To address any possible public concerns, the government will invite the public to a meeting to discuss the implementation of the carbon tax, aiming to find a well-adjusted consensus on the topic. The discussion will focus on the personal consequences, of which a few are mentioned below.

The government will consider the public's opinion about the personal consequences of the carbon tax on food in their definitive decision in January 2022 about whether the carbon tax is an appropriate measure to meet the Paris agreement.

Examples of personal consequences of the carbon tax on food to be discussed in public meetings:

Positive consequences:

- Ensuring personal safety by preventing increasingly intense natural disaster
- Increased individual well-being due to reduced pollution of water and air

Negative consequences:

- Increased costs of daily groceries
- Decreased choice of products because of insufficient alternatives to high-emission products

Personal and environmental condition

Due to the increasing urgency of reducing carbon emissions to meet the requirements of the Paris agreement, your local government is considering implementing a carbon tax on products like meat, cheese, avocados, bananas etc. A carbon tax on food is a policy that influences the price of food, based on how much carbon dioxide (CO2) is emitted through the production of these foods. To address any possible public concerns, the government will invite the public to

a meeting to discuss the implementation of the carbon tax, aiming to find a well-adjusted consensus on the topic. The discussion will focus on environmental consequences and personal consequences, of which a few are mentioned below.

The government will consider the public's opinion about the environmental and personal consequences of the carbon tax on food in their definitive decision in January 2022 about whether a carbon tax is an appropriate measure to meet the Paris agreement.

Examples of environmental and personal consequences of the carbon tax on food to be discussed in public meetings:

Positive consequences:

- Reduced global warming
- Ensure personal safety by preventing increasingly intense natural disasters

Negative consequences:

- Neglecting the effect of other greenhouse gasses like methane and water vapor that harm the environment even more
- Increased costs of daily groceries