Measuring policy consequentiality perceptions in stated preference surveys

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Abstract: To avoid hypothetical responses in stated preference studies, valuation surveys elicit respondents' perceptions about a possibility of actual consequences following from the survey response. Despite an increasing frequency of the use of questions for consequentiality perception elicitation and concerns whether they measure the intended perceptions, little research has been paid to the methods used for eliciting the perceptions. We conduct a thorough literature review of current practices in eliciting consequentiality perceptions and empirically examine the elicitation question formulation based on stated preference survey data concerning new infrastructure for renewable energy production in France. We find that a commonly used question about a belief in the survey outcome affecting policy decisions may not capture an important component of consequentiality related to the role of an individual's answer for the survey outcome.

Keywords: perceived policy consequentiality, contingent valuation, stated preferences, underwater turbines, renewable energy

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1 Introduction

Stated preference surveys are one of the leading approaches to estimate the value of public goods, including many environmental goods. The challenging task in applying the methods is to assure validity of the value estimates. To enhance the validity, it has been recommended to design the surveys such that they provide respondents with economic incentives to disclose their preferences truthfully (Johnston et al. 2017). One of the conditions for incentivizing truthful preference disclosure in public-good valuation surveys is to make surveys consequential, that is, to make survey responses have actual consequences, such as an effect on the final decisions related to provision of the public good in question (Carson and Groves 2007). As a result, recent stated preference surveys often ask respondents directly about their perceptions regarding the survey consequentiality degree (e.g., Andor et al. 2018; Elías et al. 2019). Although the early use of questions eliciting consequentiality perceptions dates back to the investigation by Herriges et al. (2010), little guidance on the perceptions' elicitation has been provided so far. With this study, we aim at delivering practical insights on the design of consequentiality elicitation questions.

Recent guidance for stated preference research (Johnston et al. 2017, p. 322-323) defines consequentiality as "a condition in which an individual [survey respondent] faces or perceives a nonzero probability that their responses will influence decisions related to the outcome in question and they will be required to pay for that outcome if it is implemented". This definition captures two components of the concept, namely policy consequentiality and payment consequentiality, respectively, which are also discussed in other works (e.g., Herriges et al. 2010, Vossler and Holladay 2018, Zawojska et al. 2019, Börger et al. forthcoming). While payment consequentiality is mainly about a respondent's belief in the coercive nature of a payment mechanism, our study focuses on policy consequentiality, which seems to have been paid a larger attention in the literature and whose measurement appears to be little consistent. We discuss this in more detail in the paragraphs below.

The definition of policy consequentiality, as invoked above, emphasizes the potential influence of a respondent's answer on the actual outcome related to the good in question. Our thorough review of stated preference literature suggests that among identified thirty-seven studies that elicit policy consequentiality perceptions,[1] fewer than one in five explicitly asks about the role of a respondent's answer. In most cases, a respondent is queried, instead, whether she believes if the survey result (not her individual response) will matter for the final decisions.[2] Against the background of various approaches used to elicit policy consequentiality perceptions, we inquire whether asking respondents about the potential influence of the survey result on the final decisions is a sufficient measure of policy consequentiality, or whether the role of an individual's response in the survey outcome should be taken into account as well.

Although the elicitation of policy consequentiality perceptions has been present in empirical stated preference studies for a decade, barely any attention has been paid to the approaches used for the elicitation. Likely, the only studies that address some aspects of the consequentiality elicitation design are the inquiries by Lloyd-Smith et al. (2019) and Zawojska et al. (2021).[3] These two studies vary the

[1] This number includes only studies published in academic journals that concern valuation of a non-private good and employ payment with a coercive nature.

[2] Some studies ask a respondent whether her response and those of others will matter for the final decisions. In this case, however, it is impossible to disentangle if the respondent believes in the consequentiality of her own response.

[3] Some studies examine effects of the survey questionnaire design (e.g., use of consequentiality scripts), preference elicitation characteristics (e.g., a cost amount, a question format) or the survey administration (e.g., a data collection mode) for self-reported consequentiality perceptions. However, we focus on the role of the design of policy consequentiality elicitation, as this is closely related to our research question.

location of the consequentiality elicitation question and find that self-reported consequentiality perceptions are weaker if declared after, rather than before, preference elicitation. However, to the best of our knowledge, none of the existing studies has examined the role of wording of the consequentiality elicitation question, as we do in this paper by differentiating between the role of a survey outcome and the role of an individual's response for actual policy consequences.

To examine if asking about the potential influence of a survey result offers a sufficient measure of policy consequentiality, we use a survey instrument to elicit preferences of residents of France towards installing new underwater turbines in French marine waters and we include two questions for assessing policy consequentiality. One of them is the question which we identify among the most common ones in the existing literature, that is, asking whether a respondent believes that the survey outcome will influence the decision of policy makers on the program implementation. The other question is specifically designed to address the presumed missing aspect of policy consequentiality in this common measurement—that is, the question asks whether a respondent believes that her response can matter for the outcome of the survey.[4] Subsequently, we test econometrically if the latter beliefs about the role of an individual's response impinge on stated preferences. This way, we verify empirically whether eliciting policy consequentiality perceptions through the question about the actual influence of the survey result, as most often done, is a sufficient approach to measure policy consequentiality perceptions.

We model the collected data on stated preferences and policy consequentiality perceptions with a trivariate probit model to account for possible endogeneity of the consequentiality self-reports.[5] The model results indicate that the perceptions on the role of an individual's response for the survey outcome are a statistically significant predictor of stated preferences, similarly to the perceptions on the role of the survey outcome for the policy makers' decision. These findings encourage a careful design of questions used for assessing policy consequentiality perceptions, so that the "entire" policy consequentiality is concerned and not only, for example, the role of the survey outcome.

We believe the paper contributes to stated preference literature along several dimensions. First, we deliver practical guidance on the design of questions for the elicitation of policy consequentiality perceptions. We are not aware of any other study that has explicitly addressed the issue of the relevance of wording of questions used for the elicitation of policy consequentiality perceptions. Second, we provide a thorough review and synthesis of the existing empirical works that elicit policy consequentiality perceptions. The paper summarizes the questions used for the perceptions' elicitation, giving an overview of applied empirical approaches. Third, we contribute to the growing, though still small, literature on the endogeneity of policy consequentiality self-reports. Our study provides additional evidence on the existence of the endogeneity and presents an application of tools for the endogeneity control by using the trivariate probit model.

Section 2 describes and summarizes our literature review of stated preference studies that elicit policy consequentiality perceptions. Empirical data used in the investigation is presented in Section 3, along with the methods used for the data analysis. Section 4 discusses the results, and Section 5 concludes.

2 Literature review

The literature review presented in this section aims at illustrating current practices in the elicitation of policy consequentiality perceptions in stated preference research. To that end, we gather and

[4] We note that Petrolia et al. (2014) employ a similar set of two questions to elicit policy consequentiality perceptions, but they do not study distinct effects of the perceptions collected within each of these questions.

[5] Similar econometric approaches have recently been employed by Groothuis et al. (2017) and Börger et al. (forthcoming).

summarize stated preference studies that use self-reported measures to assess respondents' consequentiality perceptions.

The literature search is carried out in Google Scholar website and employs a series of keywords, including "consequential", "Likert" and "follow-up", to identify stated preference studies that potentially employ a question on perceived policy consequentiality. For this purpose, Google-Scholar-listed citations of seminal papers on consequentiality in stated preference are also checked. The literature search considers only studies published in peer-reviewed academic journals in English.

All works identified in the above manner as potentially eliciting policy consequentiality perceptions are cautiously examined. Our final compilation of studies includes only those papers that report at least some information on the wording of a policy consequentiality elicitation question. When it is told in a paper that perceived consequentiality is measured but no information reveals the question formulation, the study is not considered in our literature analysis (e.g., Giguere et al. 2020). While our intention is to focus on policy consequentiality, most papers refer to consequentiality in general, without distinguishing between policy or payment consequentiality. These works are included in our literature complication unless their consequentiality elicitation question is clearly aimed for assessing beliefs about payment consequentiality. Thus, for simplicity in the literature discussion, we will use the word "consequentiality".

The final result of our literature search, which presents a summary of published stated preference studies that elicit policy consequentiality perceptions and report details of this elicitation, is provided in Table A1 (Appendix A). In total, we are able to identify fifty-two studies (as of the end of May 2021). Although we have put high efforts in making the list complete, we acknowledge that this cannot be guaranteed.

In what follows, *we limit our discussion to the thirty-seven studies eliciting policy consequentiality perceptions that concern valuation of a non-private good and employ a coercive payment mechanism*. We do so because the meaning of policy consequentiality may be substantially different in settings involving private goods and non-coercive payments. Considering provision of a public good related to a coercive payment (e.g., tax), a belief in consequentiality may enhance validity of the good's evaluation, as it counteracts a purely hypothetical nature of the valuation question. In turn, when a respondent is asked about her preferences towards a private good or when provision of the good is related to a non-coercive payment (e.g., voluntary donation), a belief in policy consequentiality may signal incentives to strategic responding. For example, viewing a valuation survey as tied to possible actual consequences, a respondent may be inclined to answer yes to a question about willingness to purchase a private good not yet available in a market in order to encourage a supplier of the good to introduce it in the market and thus to increase chances for having the good available. However, the individual will be able to decide later, when the good is in the market, whether to buy it or not. Incentives in various stated preference valuation settings are discussed by Carson and Groves (2007). The first column in Table A1 (Appendix A) indicates which studies concern private goods or use a non-coercive payment.

2.1 Elicitation of policy consequentiality

While all of the identified studies aim at eliciting consequentiality perceptions, the questions they employ for this purpose vary to a non-negligible extent. All ask about the possibility of actual consequences for policy-makers' actions or final decisions. However, some ask about the influence of an individual's response for the final decisions, while other ask about the influence of the aggregated

survey result, among others. Based on this consideration, Table A1 (Appendix A) groups studies into four categories defined by different subjects used in the consequentiality elicitation question, that is:[6]

a) the role of the survey, the survey results or the survey responses (that is, the role of the aggregated outcome of the survey),
b) the role of an individual's responses,
c) the role of an individual's and others' responses,
d) the role of survey studies in general.

Questions asking about the role of the survey, its results or responses seem to be by far the most common—they are used nearly in half of the identified studies (46%; 17 studies). This group is followed by investigations asking about the role of an individual's response with a share of 19% among the analyzed studies (7 studies). Questions about the role of an individual's and others' responses are employed in 14% of the studies (5 studies) and 11% studies (4 studies) query about the role of survey studies in general for shaping the policy and advising policy-makers' decisions.

The response scales to the consequentiality elicitation appear to be characterized by substantial heterogeneity as well. Studies employ ordered Likert scale responses ranging from 3 to 11 response options, with a 5-level response scale being most often used (19 studies). Studies also vary in whether a do-not-know/not-sure response option is provided or not, with 8 studies explicitly mentioning giving such an alternative. While the discussed differences emerge on the data collection stage, the studies subsequently code differently the data for needs of econometric analysis, selecting various threshold levels to distinguish between the individuals perceiving a survey as consequential and those not perceiving it this way.[7]

Although differences in the consequentiality elicitation procedure, such as the question wording or the range of response options, may matter for self-reported perceptions, to the best of our knowledge, this issue has not been addressed empirically. The last column of Table A1 (Appendix A) summarizes what design characteristics of consequentiality and preference elicitations and survey administration features have been studied with respect to their influence on stated consequentiality perceptions. Considering effects related to the consequentiality elicitation procedure, we are aware of only the study by Lloyd-Smith et al. (2019), who examine how self-reported consequentiality differs depending on the location of the consequentiality elicitation question.[8]

Turning to characteristics of preference elicitation and survey administration, likely the most attention is given to survey tools that could enhance perceived consequentiality, such as consequentiality scripts (e.g., Czajkowski et al. 2017, Oehlmann and Meyerhoff 2017, Kabaya 2021) or additional information (e.g., Herriges et al. 2010). Other studies look into the influence of a cost amount (e.g., Groothuis et al. 2017, Kabaya 2021, Börger et al. forthcoming) or a preference elicitation format (e.g., Scheufele and Bennett 2013, Hwang et al. 2014, Interis and Petrolia 2014, Vossler and Holladay 2018) on consequentiality perceptions. It is also discussed whether consequentiality perceptions may differ depending on the hypothetical versus real nature of payment (e.g., Vossler et al. 2012) or on the willingness-to-pay versus willingness-to-accept contexts (e.g., Petrolia and Kim 2011). Some studies

[6] In addition, Table A1 (Appendix A) with the literature review includes two separate categories for studies that (i) employ a consequentiality elicitation question which does not refer to the influence of survey responses (neither aggregated nor non-aggregated) and (ii) could not be unambiguously assigned to any of the other categories. We note that these two groups include very few studies (that is, two each).

[7] Details on specific coding of perceived consequentiality data for the data analysis are described in the fifth column of Table A1 (Appendix A) (that is, column "Inclusion of perceived policy consequentiality in econometric analysis").

[8] Zawojska et al. (2021) also investigate the role of the location of consequentiality elicitation in a survey, but this study has not been published and, hence, it is not included in Table A1 (Appendix A).

verify whether the data collection mode impinges on perceived consequentiality, for example, whether self-reported perceptions are different in virtual reality environments (e.g., Meyer 2020), or in internet, personal and mail conditions (e.g., Vossler and Watson 2013, Sandorf et al. 2016).

2.2 Selected aspects of accounting for consequentiality perceptions in stated preference models

When modelling stated preferences, consequentiality perceptions are taken into account in various ways in the models. The fifth column of Table A1 (Appendix A) (that is, column "Inclusion of perceived policy consequentiality in econometric analysis") summarizes the range of the approaches used.

Most of the reviewed studies (19 studies) employ self-reported consequentiality in the models directly (for example, as separate variables or interactions with some preference parameters) to explain variation in stated preferences and willingness-to-pay values. Some researchers (11 studies) conduct separate analysis on data only for respondents viewing the survey as consequential. It also appears that there is a growing interest in econometric approaches controlling for possible endogeneity of consequentiality perceptions, which can influence stated preferences but can also be driven by similar unobservable factors as stated preferences (Herriges et al. 2010). In the analyzed literature, these approaches include 4 applications of bivariate and multivariate probit models (Forbes et al. 2015, Groothuis et al. 2017, Kabaya 2021, Börger et al. forthcoming) and one use of a special regressor model (Lloyd-Smith et al. 2019), among others. In order to control for possible measurement error issues, 2 studies use perceived consequentiality indirectly as a latent variable in the models of stated preferences (Czajkowski et al. 2017, Zawojska et al. 2019).

Applied approaches often require re-coding of the Likert-type data on perceived consequentiality to include it in the econometric analysis. In the majority of the reviewed studies (18 studies), consequentiality is used as a binary variable distinguishing between those believing and not believing in actual consequences following from the survey. The cut-off point between the consequential and inconsequential respondents vary across studies and depends on the response scale used.

Most of the reviewed studies examine how stated preferences vary with changes in consequentiality perceptions. The seventh of column of Table A1 (Appendix A) (that is, column "Effect of perceived policy consequentiality on stated preferences") reports the effects found in the studies. In brief, 28 of the discussed studies find a statistically significant effect of the perceptions on stated preferences, 3 do not find any significant effect, while 6 do not provide information with this respect.

3 Survey data and methods

3.1 Survey questionnaire

The survey elicits respondents' preferences towards an extension of renewable energy infrastructure in France, by constructing a park of underwater turbines in French marine waters. The investment would be used for both energy production and research purposes to study environmental impacts of this technology and help enhance efficiency of this energy generation process.

Increasing the use of renewable sources to meet energy needs constitutes the essential goal set by the renewable energy directive of the European Union (EU). The revised directive from 2018 (Directive 2018/2001/EU) sets the target that by 2030, at least 32% of the total energy used in the EU needs to come from renewable sources. The target from the previous directive (2009/28/EC) was at least 20% by 2020, and France reached it with reporting in 2019 the share of 23% of renewable sources in the country's energy consumption (Djunisic 2020). However, substantial work in extending the renewable energy use in France still needs to be done to achieve the 2030 target of 32% share. The context of

this valuation study provides insights regarding public support among French residents towards development of new infrastructure for renewable energy production, particularly, concerned with hydrokinetic energy generated from marine waters.

France has a large potential for producing hydrokinetic energy, especially in the English Channel, where high tides lead to strong currents. Multon (2012) concludes that in Europe, France and the United Kingdom have the largest possibilities for generating energy from marine currents. This potential is yet not used. At the time of the survey, several programs of underwater turbines' construction were considered, although none of the planned underwater turbines was operating. By valuing the program of building underwater turbines, the study may help in using these energy production opportunities.

In developing and implementing the survey, we follow the recent guidance for stated preference research (Johnston et al. 2017). The survey instrument is a result of extensive initial consultations through interviews with representatives from the general population of residents of France. A pre-test study was conducted to ensure respondents' understanding of questions in the intended manner. Following the guidance, we also use a single binary choice format—as the most straightforward one for keeping incentive compatible properties—for eliciting preferences towards the proposed program of underwater turbines' construction and frame survey responses as referendum votes. To adhere to the suggestions for the incentive compatible design, the payment vehicle is defined as a coercive payment for all individuals from the examined population. The survey script highlights the study's consequentiality by explaining that the results will be communicated to the authorities and so may be used for shaping future policies of renewable energy development in France.

The questionnaire is structured as follows. The survey starts with basic socio-demographic questions, including age, gender and a region of residence, to control for the sample representativeness with respect to these characteristics. Next, the questionnaire informs about the general topic, as well as displays the consequentiality script, explaining that the survey results will be communicated to the authorities. Once respondents proceed to further screens, information on energy production with underwater turbines is provided, together with discussing their positive, negative and uncertain impacts, mostly focused around environmental aspects. Respondents are subsequently told about the considered program of the underwater turbines' construction. Details of the program are described, saying, among others, that the underwater turbines would be produced in France, located in French marine waters and could supply electricity for about 13,000 households. The script further explains that the impact of the turbines on the local marine environment would be studied. Respondents are also told that the program implementation would need to be supported from additional funds collected via increased electricity bills to everyone. Specifically, the payment vehicle includes a compulsory payment by all French households, which would be used for the underwater turbines' construction. The payment would be added to monthly electricity bills for one year. Following these details describing the program, the preference elicitation question is displayed. The exact wording of the question, as translated from French, is: "Are you for or against paying X euro every month for a year as an addition to your electricity bill for the implementation of the proposed program (of the underwater turbines' construction)?", where X is a randomly assigned individual cost taking one of the following values: 0.5, 2, 5, 10 and 20. Finally, a series of debriefing questions is asked, including elicitation of perceptions about the policy consequentiality and other aspects, as discussed in the next paragraph. Respondents are also queried about additional socio-demographic characteristics, such as education, status in the labor market and income.

The first three questions about perceptions (displayed in a randomized order) asks respondents to what extent they agree with the following statements:[9] "This program is very important for France";

[9] The questionnaire is in French and translations are provided in the paper.

"The outcome of this survey will influence the decision of the authorities to implement, or not, the program" and "My response can affect the outcome of the survey". The two latter statements are designed to separately assess two aspects of policy consequentiality, as outlined in the introduction. The second statement represents the most common measure of policy consequentiality perceptions, which focuses on the role of the survey result for the final outcome. The third statement addresses the presumed missing piece in eliciting policy consequentiality perceptions, which is the role of an individual's answer for the survey result. For simplicity, we will henceforth refer to these two measures of aspects of policy consequentiality as survey consequentiality and individual consequentiality, respectively. A five-level Likert scale is used to measure the agreement-disagreement level to each of the questions about the perceptions, with "strongly disagree" coded as 1, "disagree" as 2, "neither agree nor disagree" as 3, "agree" as 4, and "strongly agree" as 5.

Two further questions about perceptions are the following: "In your opinion, what is the share of respondents who will answer 'yes' to paying the electricity bill increase for the implementation of the underwater turbines' program?" and "In your opinion, what is the minimum share of 'yes' responses that should be reached so that the authorities are incentivized to implement the program?". The response options to each of the two questions are "between 0% and 20%", "between 20% and 40%", "between 40% and 60%" , "between 60 and 80%", "between 80 and 100%", and "I do not know". The data collected with these questions is used for creating instrumental variables to our empirical model.

The questionnaire has four versions varying with respect to the provided information on the minimum number of individuals surveyed, and each respondent is randomly allocated to one of the versions. In the baseline version, hereafter called V1, no information is provided on the sample size, which corresponds to a standard practice in stated preference surveys. In the questionnaire version referred to as V2, a short sentence is added right before the valuation question saying that "At least 50 respondents will participate in the survey". In the questionnaire version referred to as V3, the sentence is replaced with the following one: "At least 200 respondents will participate in the survey", while in questionnaire version V4 it reads: "At least 2,000 respondents will participate in the survey". The sentence with the information on the sample size is formulated so that it may affect the perceived size of the interviewed sample but does not misinform respondents. To ensure that respondents will read the above sentence in V2, V3 and V4 and will not be distracted by other information, the screen displays only the version-specific sentence and a brief reminder that the results of the survey will be provided to the authorities. For respondents in V1, the screen shows only the consequentiality reminder. Only after five seconds of showing this screen, the button "next" appears, which allows respondents to move to the next slide. By doing so, we intend to avoid "clicking through" slides without paying attention to the content.

3.2 Survey administration

The data was collected online through Computer-Assisted Web Interviews (CAWI) in March 2018. The questionnaire was administered by a professional public opinion research company to a sample of adult residents of France. In total, 2,023 completed questionnaires were received, and the surveyed sample is representative (with respect to age, gender and a region of residence) of the French population aged between 18 and 75 years old. The observations split approximately equally between the questionnaire versions, V1, V2, V3 and V4, as shown in Table 1.

Table 1 also informs about basic socio-demographic characteristics of the sample according to the questionnaire-based split. The binary variable 'female' is equal to one for female respondents and zero otherwise. The sample is characterized by about equal shares of female and male respondents. The continuous variable 'age' expresses a respondent's age in years and suggest that the sample mean age is about 46 years. The continuous variable 'household net monthly income' shows that an average

individual in the sample lives in a household with income of nearly 2,700 euro net per month. The binary variable 'high-school degree' takes the value of one if an individual has at least a high-school diploma and zero otherwise. On average, 75% of the respondents have attained a high-school degree.

Table 1. Socio-demographic characteristics of the surveyed sample

	V1 (no information about *n*)	**V2 (*n* ≥ 50)**	**V3 (*n* ≥ 200)**	**V4 (*n* ≥ 2,000)**
Female	0.506	0.504	0.498	0.513
	(0.500)	(0.500)	(0.500)	(0.500)
Age	46.111	47.130	46.238	45.386
	(15.102)	(15.587)	(14.994)	(15.763)
Household net monthly income (in thousands EUR)	2.702	2.750	2.633	2.677
	(1.360)	(1.523)	(1.435)	(1.475)
High-school degree	0.765	0.759	0.738	0.750
	(0.424)	(0.428)	(0.440)	(0.434)
Number of respondents (*n*)	468	532	520	503

Note: Means are provided with standard deviations in brackets.

A non-parametric Kolmogorov-Smirnov test is performed successively for each of the six possible combinations (V1 versus V2; V2 versus V3, etc.) and for each of the four socio-demographic variables. The test results indicate no significant differences with respect to the considered characteristics across the four subsamples at a 5% statistical level, which is expected given the randomized allocation to the different versions of the questionnaire.

3.3 Methods

To examine whether controlling for policy consequentiality perceptions only through a survey consequentiality measure is a sufficient approach and whether neglecting the individual consequentiality does not matter for results of stated preference models, we employ a trivariate probit-based instrumental variable framework. The framework has several advantages that help us address our research question comprehensively. The model allows for examining determinants of each consequentiality aspect (that is, survey consequentiality and individual consequentiality) and the yes-no answer to the valuation question, revealing at the same time the impact of the consequentiality aspects on the yes-no answer. The entire investigation is conducted within a single model, which enables controlling for possible correlation between the consequentiality aspects and for potential endogeneity of the policy consequentiality and the yes-no valuation response. Given the suitability of the multivariate probit framework to the examination of the role of consequentiality in stated preference models, the approach has been applied in recent studies, such as Groothuis et al. (2017) and Börger et al. (forthcoming).

Our trivariate probit model consists of three equations. Two of them explain the two aspects of policy consequentiality with a selected set of explanatory variables. The third equation uses the yes-no valuation response as the explained variable and is referred as an outcome equation. The valuation response is explained by the consequentiality perceptions, among others, and given the possible endogeneity, instrumental variables are needed to be included in the two consequentiality equations. Formally, the model can be represented with the following:

Survey consequentiality equation: $y_1^* = \boldsymbol{\beta}_1' \boldsymbol{x} + \varphi_1' z_1 + \epsilon_1$ (1)

Individual consequentiality equation: $y_2^* = \boldsymbol{\beta}_2' \boldsymbol{x} + \varphi_2' z_2 + \epsilon_2$ (2)

Outcome equation: $y_3^* = \boldsymbol{\beta}_3' \boldsymbol{x} + \delta_1 y_1 + \delta_2 y_2 + \epsilon_3$ (3)

$$y_1 = \begin{cases} 1 \ if \ y_1^* > 0 \\ 0 \ \text{otherwise} \end{cases}, \quad y_2 = \begin{cases} 1 \ if \ y_2^* > 0 \\ 0 \ \text{otherwise} \end{cases}, \quad y_3 = \begin{cases} 1 \ if \ y_3^* > C \\ 0 \ \text{otherwise} \end{cases}. \tag{4}$$

According to (4), for latent variables y_1^*, y_2^* and y_3^* that represent unobservable survey consequentiality, individual consequentiality and a willingness-to-pay amount for the proposed program, respectively, only binary indicator variables y_1, y_2 and y_3 are observed. (In the definition of y_3, *C* denotes the cost amount in euro as presented in the valuation question.) The indicator variables are derived from corresponding consequentiality statements re-coded to a zero-one scale for y_1 and y_2 and from yes-no responses to the valuation question for y_3. In equations (1), (2) and (3), $\boldsymbol{x}$ is a vector of exogenous variables, and $\boldsymbol{\beta}_1$, $\boldsymbol{\beta}_2$ and $\boldsymbol{\beta}_3$ are coefficient vectors to be estimated. We use the same set of exogenous variables for the three equations, hence, $\boldsymbol{x}$ is not indexed by the equation number. δ_1 and δ_2 are scalar coefficients of the indicator variables which enter the outcome equation as additional explanatory variables. To identify the model, instrumental variables z_1 and z_2 are included in equations (1) and (2), respectively. We use separate instruments for survey consequentiality and individual consequentiality. The instruments are required to be uncorrelated with the error term of the outcome equation, ϵ_3, but correlated with the respective instrumented variables y_1 and y_2. The instruments' selections is discussed in detail in the Results section. φ_1 and φ_2 are scalar coefficients of the instrumental variables in equations (1) and (2), respectively.

Error terms ϵ_1, ϵ_2 and ϵ_3 are assumed to follow a trivariate normal distribution with mean $[0 \ 0 \ 0]$ and variance $[1 \ 1 \ 1]$. Coefficients $\boldsymbol{\beta}_1$, $\boldsymbol{\beta}_2$, $\boldsymbol{\beta}_3$, φ_1, φ_2, δ_1 and δ_2 are estimated using the maximum likelihood method. Additionally, correlation coefficients between the three error terms are calculated and can be represented in a matrix form as in (5), with ρ_{ij} representing the correlation of error terms from equations i and j, where $i, j = \{1, 2, 3\}$ and $\rho_{ij} = \rho_{ji}$ (hence, we will subsequently refer only to the coefficients from the lower triangle of the matrix):

$$\mathrm{P} = \begin{pmatrix} 1 & \rho_{1,2} & \rho_{1,3} \\ \rho_{2,1} & 1 & \rho_{2,3} \\ \rho_{3,1} & \rho_{3,2} & 1 \end{pmatrix}. \tag{5}$$

To ease understanding of the results, we refer to $i, j = \{1, 2, 3\}$ as $i, j = \{survey, ind, outcome\}$. A result that $\rho_{outcome,survey} = 0$ will imply that y_1 is exogenous in the outcome equation in (3). Similarly, a result that $\rho_{outcome,ind} = 0$ will suggest that y_2 is exogenous in the outcome equation. On the other hand, if either of these correlation coefficients differs from zero statistically significantly, there is a correlation between unobservable characteristics in the outcome equation and the respective consequentiality equation, pointing to endogeneity. Coefficient $\rho_{survey,ind}$ captures correlation between the two aspects of policy consequentiality investigated here.

4 Results

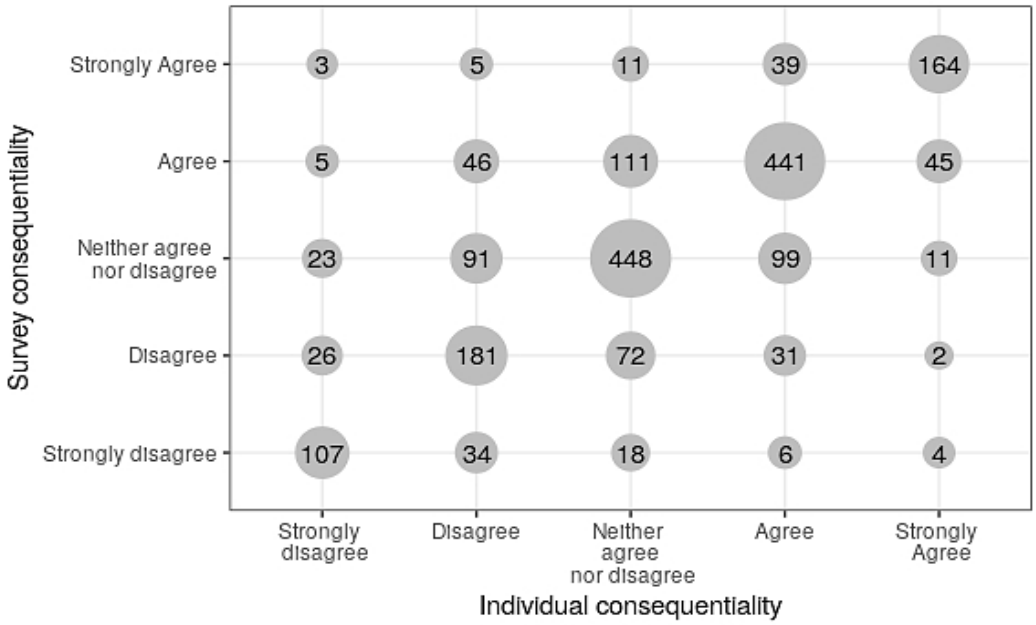
4.1 Variables capturing survey and individual consequentiality

The five-level Likert-scale responses to the policy consequentiality questions need to be re-coded into binary indicators for the trivariate probit model. To this end, we define the following two variables: 'survey consequentiality' equal to one if a respondent reports "strongly agree" or "agree" to the statement "The outcome of this survey will influence the decision of the authorities to implement, or

not, the program" and zero otherwise; and 'individual consequentiality' taking a value of one if a respondent states "strongly agree" or "agree" to the statement "My response can affect the outcome of the survey" and zero otherwise. By selecting this cut-off point, we distinguish between respondents somewhat convinced about the survey or individual consequentiality and those who do not have an opinion or (definitely) do not believe in the consequentiality.

Figure 1 illustrates the distribution of responses to the two consequentiality questions. Although many observations lay on the diagonal of the graph, suggesting correlation between the two measures, non-negligible shares are also observed off the diagonal. Using our re-coded variables, the percentage of respondents who finds the survey as consequential along both the survey and individual dimensions is 34%. 9% of the respondents believes in the survey consequentiality only, and 8% believes in the individual consequentiality only. This means that about half of the sample is convinced about at least one of the policy consequentiality dimensions.

Figure 1. Distribution of responses to the consequentiality questions



4.2 Instrumental variables for survey and individual consequentiality

In order to identify the trivariate probit model, as described by equations (1)-(4), instrumental variables are necessary, which explain survey and individual consequentiality perceptions but are not correlated with the error term of the outcome (yes-no vote) equation. The instrumental variables are constructed on the basis of data collected with the following two questions: (i) "In your opinion, what is the share of respondents who will answer 'yes' to paying the electricity bill increase for the implementation of the underwater turbines' program?" and (ii) "In your opinion, what is the minimum share of 'yes' responses that should be reached so that the authorities are incentivized to implement the program?". Formally, the construction of each of the two instrumental variables is presented in Table 2, while the subsequent paragraphs explain the intuition behind the variables' definition.

The instrumental variable for the survey consequentiality, that is, for the belief that the survey outcome can matter for the authorities' decision, is constructed on the basis of question (ii). We argue that a respondent may have a weak belief in the survey outcome potentially affecting the final decision if the perceived threshold required for implementing the proposed program is very large or very small. For instance, if a respondent believes that about 80% public support is needed to conduct the policy program, the respondent may believe that the authorities are reluctant to pursue the program. On

the other hand, if the level of 10% of "yes" answers is perceived as needed to implement the program, the respondent may think that the authorities want to realize the program regardless of the public opinion. Thus, the instrumental variable for the survey consequentiality (henceforth, referred as 'IV survey') has the smallest value (equal to 1) if a respondent answers "between 80 and 100%" or "between 0% and 20%" to question (ii); takes a middle value (of 2) if a respondent answers "between 60 and 80%" or "between 20% and 40%"; and has the largest value (equal to 3) if a respondent answers "between 40% and 60%".

For an instrumental variable for the individual consequentiality, we combine information from both questions (i) and (ii). In the definition used in this paper, individual consequentiality expresses whether a respondent thinks that her answer can matter for the outcome of the survey. For example, when a respondent views the decision mechanism in the valuation question as a majority voting and thus perceives 50% as the passing threshold for the program implementation, she may think that her answer can matter (that is, be pivotal) if the expected number of "yes" responses in the total sample surveyed is about 50%. Thus, if a respondent's perceptions about the two questions (i) and (ii) overlap or are close (that is, differ by one level of the discrete response options), the instrumental variable for the individual consequentiality (henceforth, referred as 'IV individual') takes the value of 1 and 0 otherwise.

For the validity of the instrumental variables, it matters not only that they are correlated with the instrumented variables, but also that they are not correlated with the error term of the outcome equation. No formal test exists to examine the latter. However, based on the intuitive reasoning, we do not expect the instruments to be related to direct effects in the outcome equation. 'IV survey' measures the deviation in the perception that 40-60% of "yes" answers is needed for the program implementation. There is no obvious reason why this perceived deviation from the 40-60% level should affect the valuation responses. Similarly, 'IV individual' has an expected limited role for the valuation responses, as it captures the view that the share of respondents answering "yes" is approximately equal to the perceived needed number of "yes" answers for the program implementation.

Table 2. Definition of instrumental variables for individual consequentiality and survey consequentiality (first and second number in each cell, respectively)

Question (i): "In your opinion, what is the share of respondents who will answer 'yes' to paying the electricity bill increase for the implementation of the underwater turbines' program?"	80-100%	1; 1	1; 2	0; 3*	0; 2	0; 1	0; 0
	60-80%	1; 1	1; 2	1; 3	0; 2	0; 1	0; 0
	40-60%	0; 1	1; 2	1; 3	1; 2	0; 1	0; 0
	20-40%	0; 1	0; 2	1; 3	1; 2	1; 1	0; 0
	0-20%	0; 1	0; 2	0; 3	1; 2	1; 1	0; 0
	I do not know	0; 0	0; 0	0; 0	0; 0	0; 0	0; 0
		80-100%	60-80%	40-60%	20-40%	0-20%	I do not know
		Question (ii): "In your opinion, what is the minimum share of 'yes' responses that should be reached so that the authorities are incentivized to implement the program?"					

Note: The example marked with * shows that for this combination of responses, 'IV individual' is equal to 0 and 'IV survey' is 3.

4.3 Trivariate probit results

In this section, we present results of the trivariate probit model. We consider three specifications of the model, which vary how the differences in the information on the number of surveyed individuals

across the questionnaire versions (that is, across V1, V2, V3 and V4) are taken into account. This allows for checking whether our main results are robust to the definition of the variables controlling for possible effects of the sample size information. The formulation of the variables capturing the sample size information is detailed in Table 3.

Table 3. Variables capturing the provided information on the sample size (*n*)

Sample size	A continuous variable equal to 50 for respondents faced with version V2 ($n \geq 50$), equal to 200 for those faced with version V3 ($n \geq 200$), equal to 2,000 for those faced with version V4 ($n \geq 2{,}000$), and with a missing value for those faced with version V1 (no information about *n*)
No information	A binary variable equal to 1 if a respondent faces version V1 (no information about *n*) and 0 otherwise
Sample 50	A binary variable equal to 1 if a respondent faces version V2 ($n \geq 50$) and 0 otherwise
Sample 200	A binary variable equal to 1 if a respondent faces version V3 ($n \geq 200$) and 0 otherwise
Sample 2000	A binary variable equal to 1 if a respondent faces version V4 ($n \geq 2{,}000$) and 0 otherwise

Results of the trivariate probit model are shown in Table 4. In addition to the variables explained earlier, the model includes variable 'cost', which is continuous and controls for the cost amount displayed to a respondent in the valuation question. The equations account for possible influence of the socio-demographic variables described earlier, with the household income being included only in the outcome equation and the high-school degree being included only in the consequentiality equations. This incorporation of these variables is guided by the model fit, convergence characteristics and non-negligible correlation between income and education. The results are based on 1,000 Halton draws. Overall, the estimates are consistent across the three model specifications, pointing to the robustness of our results.[10]

Table 4. Results of the trivariate probit model

	Specification 1	**Specification 2**	**Specification 3**
Outcome equation			
Cost	-0.035***	-0.032***	-0.035***
	(0.041)	(0.005)	(0.005)
Female	-0.137**	-0.134**	-0.137**
	(0.054)	(0.061)	(0.054)
Age	-0.000	0.000	-0.000
	(0.002)	(0.002)	(0.002)
Household net monthly income	0.041***	0.047***	0.040***
	(0.016)	(0.017)	(0.015)
No information	0.035		
	(0.061)		
Logarithm of sample size		-0.004	
		(0.020)	
Sample 50			0.055
			(0.072)

[10] As an additional robustness check, we present in Appendix B results of binary probit models, which separately consider survey consequentiality equation (1), individual consequentiality equation (2) and outcome equation (3). These results display the same relationships between the considered variables as the trivariate probit model.

Sample 200			-0.013 (0.076)
Sample 2000			0.035 (0.076)
Individual consequentiality	1.319*** (0.122)	1.325*** (0.137)	1.311*** (0.123)
Survey consequentiality	0.838*** (0.153)	0.812*** (0.169)	0.850*** (0.152)
Constant	-0.719*** (0.119)	-0.706*** (0.169)	-0.720*** (0.119)
Survey consequentiality equation			
Cost	-0.014*** (0.004)	-0.014*** (0.005)	-0.0142*** (0.004)
Female	0.011 (0.057)	0.013 (0.065)	0.011 (0.057)
Age	-0.001 (0.002)	-0.0016 (0.002)	-0.001 (0.002)
High-school degree	0.062 (0.051)	0.021 (0.058)	0.063 (0.051)
No information	-0.003 (0.066)		
Logarithm of sample size		0.0029377 (0.021)	
Sample 50			-0.008 (0.079)
Sample 200			-0.007 (0.081)
Sample 2000			0.006 (0.081)
IV survey	0.124*** (0.024)	0.126*** (0.027)	0.124*** (0.024)
Constant	-0.344*** (0.130)	-0.311* (0.183)	-0.345*** (0.130)
Individual consequentiality equation			
Cost	-0.009** (0.004)	-0.008* (0.005)	-0.009** 0.004
Female	-0.054 (0.056)	-0.049 (0.063)	-0.055 (0.056)
Age	0.001 (0.002)	0.002 (0.002)	0.001 (0.002)
High-school degree	0.150*** (0.048)	0.136** (0.054)	0.150*** (0.047)
No information	-0.010 (0.065)		
Logarithm of sample size		-0.000 (.021)	
Sample 50			0.007 (0.077)
Sample 200			-0.042 (0.080)

Sample 2000			-0.000
			(0.080)
IV individual	0.224***	0.220***	0.223***
	(0.045)	(0.050)	(0.045)
Constant	-0.305**	-0.332*	-0.305***
	(0.121)	(0.174)	(0.122)
Correlation parameters			
$\rho_{outcome,survey}$	-0.749***	-0.760***	-0.862***
	(0.064)	(0.069)	(0.036)
$\rho_{outcome,ind}$	-0.860***	-0.870***	-0.755***
	(0.037)	0.040	(0.063)
$\rho_{survey,ind}$	0.844***	0.849***	0.844***
	(0.015)	(0.017)	(0.015)
Model characteristics			
Log-likelihood	-3,421.465	-2,635.124	-3,420.51
BIC	7,033.239	5,453.978	7,077.083
AIC	6,892.931	5,320.248	6,903.101
Number of observations	2,023	1,555	2,023

Notes: ***, ** and * indicate the 1%-, 5%- and 10%-level of significance, respectively. The household net monthly income is in thousands EUR.

Both the survey consequentiality equation and the individual consequentiality equation show that the instrumental variables are statistically significantly and positively correlated with the respective instrumented perceptions. This is consistent with the expectations based on the construction of the instruments. Cost appears to influence both dimensions of the examined consequentiality negatively, though its impact on the individual consequentiality is slightly weaker than on the survey consequentiality. This implies that higher cost amounts reduce the strength of the belief in the two consequentiality aspects. In other words, the higher the cost amount, the less likely it is for a respondent to view her response as potentially affecting the survey outcome and the survey outcome as mattering for the final decision of the authorities. This result is similar to the finding by Groothius et al. (2017), who report a negative influence of a cost amount on the belief that the indicated votes on the proposal by a respondent and other survey participants will be taken into consideration by policy makers. Groothuis et al. (2017) explain this finding by that higher cost amounts make respondents perceive the vote threshold less likely to be met, which reduces the chances to influence the policy. Similarly, as the cost increases, the perceived share of respondents answering "no" may be approaching 100%, which makes the survey outcome predictions more determined and likely decreases the perceived role of a respondent's answer for the survey outcome.

We do not find any role of the sample size information on the policy consequentiality perceptions, and we observe barely any influence of socio-demographic variables. The only socio-demographic factor being statistically significant is a high-school degree in the individual consequentiality equation. The positive coefficient value suggests that having attained a high-school degree increases the perceived chances of the respondent's answer mattering for the survey outcome.

The results of the outcome equation reveal that both consequentiality aspects matter for stated preferences (yes-no valuation responses). The coefficient estimates by individual consequentiality and survey consequentiality are statistically significant and positive, meaning that strong beliefs in these consequentiality dimensions increase the probability of answering "yes" to the valuation question. This finding is consistent with most of the literature examining the impact of consequentiality perceptions on stated preferences, which shows that respondents viewing a survey as consequential are typically more interested in having the program implemented and want to pay more for it (cf. our literature review discussed in Section 2 and presented in Appendix A). The statistically significant

estimate of the individual consequentiality in the outcome equation indicates that this dimension of consequentiality might be important to be taken into account in stated preference models.

The estimates of the outcome equation also display common results consistent with theoretical predictions that larger cost amounts decrease the likelihood of answering "yes" to the proposed program and that this likelihood, and so willingness-to-pay amounts, increase with higher income levels. We also observe that females are less likely to say "yes" to the proposed program than males. The results do not suggest any significant impact of age or of the sample size information on the probability of responses in the valuation question.

Finally, the estimates of the correlation coefficients point to statistically significant endogeneity of survey consequentiality and individual consequentiality in the outcome equation. Unobservable factors decrease the likelihood of perceiving the survey outcome and the individual answer as consequential and increase the probability of answering "yes" to the program proposal. The estimates also show significant and positive correlation between survey consequentiality and individual consequentiality, as expected based on the initial, graphical analysis.

5 Conclusions

Perceiving a stated preference valuation survey as policy consequential has been generally acknowledged as one of necessary conditions for truthful disclosure of preferences towards public goods (e.g., Carson and Groves 2007; Vossler et al. 2012; Carson et al. 2014). When a survey response is viewed as policy consequential (that is, tied to possible actual consequences), preference statements are not purely hypothetical, which increases validity of the stated-preference-based value estimates. The challenge lies, however, in how to elicit respondents' consequentiality perceptions. Despite an increasing number of studies willing to control for consequentiality perceptions in estimating public good values, hardly any research has approached the question on the method of the perceptions' elicitation. The paucity of research in this area may appear as particularly surprising given the tension between the need for eliciting consequentiality perceptions to enhance the validity of stated preference value estimates on one hand and substantial skepticism towards the perceptions' elicitation on the other hand due to concerns such as potential endogeneity (e.g., Börger et al. forthcoming), among others.

With this study, we undertake an early step in examining measures of policy consequentiality. Based on a thorough literature review, we identify current trends in eliciting policy consequentiality. Observing a divergence between the common approaches used for the perceptions' elicitation and the concept definition, we inquire if this divergence may matter for empirical value estimates. Specifically, we ask whether a policy consequentiality measure based on a respondent's belief in the survey outcome affecting actual policy is sufficient and allows for capturing the role of consequentiality beliefs on stated preferences. This is the most common approach among the existing stated preference studies eliciting policy consequentiality perceptions. An alternative that we consider, in line with the consequentiality definition (Johnston et al. 2017), is a measure that in addition to the above takes into account a respondent's belief in her stated preference response mattering for the survey outcome.

Our empirical results suggest that both beliefs—in the survey outcome affecting the policy and in an individual's response mattering for the survey outcome—influence stated preferences. This implies that in order to control for the impact of consequentiality perceptions on stated preferences, it may not be enough to focus solely on the belief in the survey outcome's role. This finding encourages designs of policy consequentiality questions that will capture the belief in the role of an individual's response.

An obvious question is whether any of the approaches used for eliciting policy consequentiality perceptions is more appropriate or more theoretically justified. In the context of our investigation and based on the literature review we conduct, we can distinguish two main groups among the perception elicitation approaches: one where a respondent is asked about the potential influence of the survey result or the survey answers in general on the final decision of policy makers and the other where a respondent is asked about the potential influence of her response. In light of the definition in Johnston et al. (2017; quoted in the introduction), which says about a nonzero probability of an individual's answer influencing decisions, the latter approach seems to be more justified. However, we note that stated preference theoretical literature does not appear to be consistent in defining policy consequentiality. For example, in the paper by Carson and Groves (2007, p. 183), policy consequentiality is once explained as "a survey's results are seen by the agent as potentially influencing an agency's actions" and in another place as "the agent answering a preference survey question must view their responses as potentially influencing the agency's actions". This could contribute to the variety of empirical approaches applied to assess policy consequentiality perceptions. We argue that measuring policy consequentiality through a question asking about the influence of an individual's response may be more relevant. When a respondent believes that the survey result may matter for the decisions of policy makers but she does not believe that her response can matter for this result, any random answer for this respondent can appear equally good and, hence, she will not be incentivized to truthfully disclose her preferences. Instead, when a respondent believes in both, that the survey result will matter for the final decisions and that her response may play a role in the survey outcome, the individual's response can be viewed as potentially policy consequential. Thus, asking about the potential influence of a respondent's answer could potentially be a more precise measure of policy consequentiality.

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Appendix A – Literature review table

Table A1. Summary of stated preference studies that elicit policy consequentiality perceptions
[a separate Excel sheet - at the end]

Appendix B – Results of binary probit models

Table B1. Results of a binary probit model with the survey consequentiality as a dependent variable

	Specification 1	Specification 2	Specification 3
Cost	-0.016***	-0.016***	-0.016***
	(0.004)	(0.005)	(0.004)
Female	-0.006	0.002	-0.006
	(0.056)	(0.064)	(0.056)
Age	-0.001	-0.002	-0.001
	(0.002)	(0.002)	(0.002)
High-school degree	0.062	0.021	0.062
	(0.058)	(0.066)	(0.058)
No information	-0.001		
	(0.067)		
Logarithm of sample size		0.005	
		(0.021)	
Sample 50			-0.014
			(0.080)
Sample 200			0.004
			(0.080)
Sample 2000			0.006
			(0.081)
Constant	-0.063	-0.038	-0.064
	(0.122)	(0.176)	(0.122)
Log-likelihood	-1,364.732	-1,049.421	-1,364.689
BIC	2,775.138	2,142.938	2,790.278
AIC	2,741.464	2,110.842	2,745.379
Number of observations	2,023	1,555	2,023

Notes: ***, ** and * indicate the 1%-, 5%- and 10%-level of significance, respectively.

Table B2. Results of a binary probit model with the individual consequentiality as a dependent variable

	Specification 1	Specification 2	Specification 3
Cost	-0.013***	-0.013***	-0.013***
	(0.004)	(0.005)	(0.004)
Female	-0.065	-0.058	-0.066
	(0.056)	(0.064)	(0.056)
Age	0.000	0.001	0.000
	(0.002)	(0.002)	(0.002)
High-school degree	0.145**	0.139**	0.144**
	(0.058)	(0.066)	(0.058)
No information	-0.003		
	(0.067)		
Logarithm of sample size		-0.005	
		(0.021)	

Sample 50			0.021
			(0.080)
Sample 200			-0.028
			(0.081)
Sample 2000			-0.002
			(0.081)
Constant	-0.126	-0.125	-0.124
	(0.122)	(0.175)	(0.122)
Log-likelihood	-1,372.628	-1,055.551	-1,372.432
BIC	2,790.93	2,155.196	2,805.762
AIC	2,757.256	2,123.101	2,760.864
Number of observations	2,023	1,555	2,023

Notes: ***, ** and * indicate the 1%-, 5%- and 10%-level of significance, respectively.

Table B3. Results of a binary probit model with the yes-no valuation response as a dependent variable

	Specification 1	Specification 2	Specification 3	Specification 4	Specification 5	Specification 6
Cost	-0.061***	-0.057***	-0.0613***	-0.061***	-0.058***	-0.062***
	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.004)
Female	-0.226***	-0.218***	-0.227***	-0.226***	-0.209***	-0.218***
	(0.060)	(0.069)	(0.060)	(0.060)	(0.067)	(0.059)
Age	-0.001	-0.001	-0.001	-0.001	-0.001	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Household net	0.072***	0.082***	0.072***	0.072***	0.089***	0.081***
monthly income	(0.021)	(0.024)	(0.021)	(0.021)	(0.023)	(0.020)
No information	0.043			0.043		
	(0.071)			(0.071)		
Logarithm of		-0.007			-0.008	
sample size		(0.022)			(0.022)	
Sample 50			-0.080			0.075
			(0.086)			(0.083)
Sample 200			0.007			0.008
			(0.086)			(0.083)
Sample 2000			0.042			0.036
			(0.087)			(0.084)
Individual	0.439***	0.450***	0.438***			
consequentiality	(0.079)	(0.090)	(0.079)			
Survey	0.457***	0.416***	0.459***			
consequentiality	(0.079)	(0.090)	(0.079)			
Constant	0.010	0.032	0.013	0.378***	0.394**	0.381***
	(0.132)	(0.188)	(0.131)	(0.125)	(0.180)	(0.125)
Log-likelihood	-1,179.571	-917.890	-1,179.186	-1,271.592	-984.7131	-1,271.236
BIC	2,420.041	1,894.573	2,434.495	2,588.858	2,013.522	2,603.371
AIC	2,375.143	1,851.779	2,378.372	2,378.372	1,981.426	2,558.472
Number of observations	2,023	1,555	2,023	2,023	1,555	2,023

Notes: ***, ** and * indicate the 1%-, 5%- and 10%-level of significance, respectively. The household net monthly income is in thousands EUR.

Private good or non-coercive payment	Study	Formulation for eliciting policy consequentiality	Response scale	Inclusion of perceived policy consequentiality in econometric analysis	Accounting for possible endogeneity of the consequentiality	Effect of perceived policy consequentiality on stated preferences	Effect of survey design on perceived policy consequentiality
	Role of the survey, its results or responses						
	Czajkowski et al. (2017)	"To what extent do you agree with the statement that the results of the survey will influence future decisions regarding financing municipal theaters in Warsaw?"	5-points, from 1 ("definitely disagree") to 5 ("definitely agree").	Explained and explanatory latent variable in hybrid choice RPL models of SP.	"[…] we estimated a version of the mixed logit model that incorporates a control-function approach to deal with the potential endogeneity of stated perceptions of policy consequentiality", p. 49.	Effect ("beliefs supporting policy consequentiality leading to substantially higher estimates of WTP", p. 61).	No effect of the consequentiality script ("[…] the information treatments did not systematically alter stated [consequentiality] beliefs", p. 57).
	Hindsley and Yoskowitz (2020)	Description by the authors: "[…] respondents are confident the results of this study will be applied to policy"	Not given fully in the paper.	Explanatory dummy variable "confident applied to policy" interacted with an alternative specific constant in error component logit models of SP.	No information.	Effect ("As respondents are confident the results of this study will be applied to policy, they are also less likely to choose the status quo option", p. 7).	No information.
	Hwang et al. (2014)	"How likely do you think it is that the results of this survey will shape the direction of future policy in the Lower Barataria-Terrebonne Estuary?"	3-points, from 1 ("very likely") to 3 ("unlikely") + "I do not know" option.	Several explanatory dummy variables (response scale = 1, response scale = 3, and option = "I do not know") in MNL models of SP.	No information.	Effect ("[…] compared to respondents who viewed the survey as consequential, respondents who viewed the survey as inconsequential were more likely to opt out than to choose yes", p. 484).	Descriptive statistics on the preference elicitation format and perceived consequentiality, Table 4, p. 478.
	Interis and Petrolia (2014)	"How likely do you think it is that the results of this survey will shape the direction of future policy in the Lower Barataria-Terrebonne Estuary?"	3-points, from 1 ("very likely") to 3 ("unlikely") + "I do not know" option.	Several explanatory dummy variables (response scale = 1, response scale = 2, response scale = 3 or option = "I do not know") interacted with a constant in a binary logit model of SP. Several explanatory dummy variables (response scale = 1 or response scale = 2, response scale = 3, option = "I do not know") interacted with each choice attribute in a MNL model.	"We tested for endogeneity of the consequentiality response on the BC [Binary Choice] data with a two-step instrumental-variable probit model using Newey's 1987 minimum Chi-squared estimator", p. 209. "We did not test for endogeneity in the MC [Multinomial-Choice] model because we know of no such test", p. 210.	Effect ("Respondents who found the survey to be at least somewhat consequential are willing to pay most for increased fisheries productivity and least for restored wildlife habitat. The "unlikely" and "I don't know" respondents are generally willing to pay less for the high levels of the attributes than the medium levels", p. 214).	Descriptive statistics on the preference elicitation format and perceived consequentiality, Table 3, p. 208.
	Jones et al. (2017)	Description by the authors: "[…] belief that government officials will consider the survey results when setting GCD [Glen Canyon Dam] policy"	Not given fully in the paper.	Explanatory dummy variable "will consider survey results" in binary logit models of SP.	No information	Effect ("[…] respondents viewing the survey as consequential are more likely to support paying some amount of money for their preferred management policy", p. 368).	No information.
	Kabaya (2021)	"To what extent do you think the survey results would be taken into account in actual policy-making if they would be provided to the local authority?"	5-points, from 1 ("very little") to 5 ("very much") + "I do not know" option.	Explained ordinal variable in a bivariate ordered probit model of perceived consequentiality. Explained dummy variable in multivariate probit models of SP and consequentiality (coding for the dummy variables: response scale > 1, response scale > 2, response scale > 3).	"The modelling approach employed in this study was simple multivariate probit models that controlled for endogeneity between voting behaviours and stated consequentiality beliefs", p. 11.	No information.	No effect of the consequentiality script and cost amount ("The second equation does not indicate the statistical significance of the policy consequentiality script. […] Also, unlike Groothuis et al. (2017), I cannot conclude with confidence that the tax amount randomly assigned to respondents affected their stated beliefs", p. 9).
	Meginnis et al. (2020)	"How likely is it that the survey will be used to influence future interventions?"	3-points, from 1 ("unlikely") to 3 ("likely").	No information/No analysis involving perceived consequentiality.	No information.	No information.	No information.
	Needham and Hanley (2020)	"How confident are you that the results of this survey will be used by policymakers in deciding future flood risk management in the Tay Estuary?"	5-points, from 1 ("very unconfident") to 5 ("very confident").	Several explanatory dummy variables (response scale = 2, response scale = 3, response scale = 4, response scale = 5) in interval-regression and Cragg Hurdle models of SP. An interval-regression model of SP estimated for each consequentiality level. Explained ordinal consequentiality variable in an ordered probit model.	No information.	Effect ("[…] willingness to pay varies according to stated consequentiality", p. 1).	No information.
	Nguyen et al. (2021)	"How likely do you think it is that the results of this survey will affect the Government's decisions about improving early warning service for tropical cyclones?"	5-points, from 1 ("no effect at all") to 5 ("definite effects")	RPL models of SP estimated on "non-strategic" respondents (response scale > 1 and belief in payment obligation) and on "strategic" respondents (response scale = 1 or lack of belief in payment obligation).	No information.	Effect ("Inspection of the total WTP estimates […] reveals that while the strategic respondents living the Central region overstated the total WTP for the medium improvement program, the strategic respondents with Northern region residency underbid the same program", p. 408)	No information.
	Sandorf et al. (2016)	"How likely do you think it is that policy makers will use the results of this survey in the management of Norwegian coastal- and ocean areas?"	6-points, from 1 ("completely unlikely") to 6 ("extremely likely") + "I do not know" option.	RPL models of SP estimated on only consequential participants (response scale > 1) and on pooled samples. Explained dummy variable (response scale > 1) in a binary logit model.	No information.	Effect ("We show that […] believing the survey to be inconsequential significantly increase the likelihood of being an SQ [Status Quo] chooser and that these factors contribute to lowering the mean WTP estimates in the internet survey", p. 51)	Effect of the survey administration mode ([…] "there are roughly twice as many inconsequential respondents in the internet survey [compared to the in-person valuation workshop]", p. 60).
	Subroy et al. (2018)	"How likely you think it is that the results of this study will influence future policy decisions about fox and feral cat management?"	5-points, from 1 ("very unlikely") to 5 ("very likely").	Explanatory continuous variable (−1 if response scale = 1 or 2, 0 if response scale = 3, and 1 if response scale = 4 or 5) interacted with an attribute specific constant in a RPL model of SP.	No information.	Effect ("Respondents who believed that their choices would influence future conservation policies were more likely to choose one of the conservation strategies over the status quo option […]", p. 119)	No information.
	Troske et al. (2019)	"How likely do you think it is that the results of this survey will shape the direction of future policy for Kentucky's equine industry?"	3-points, from 1 ("very unlikely") to 3 ("very likely") + "I do not know" option.	Several explanatory dummy variables (response scale = 1, response scale = 2, response scale = 3) in OLS and interval regression models of SP.	No information.	Effect ("Respondents who believe that results from this survey are 'somewhat likely' or 'very likely' to affect future policy report higher WTP amounts", p. 12).	No information.
	Vasquez and de Rezende (2019)	Description by the authors: "[…] respondents who believe that survey results can influence local authorities to implement the proposed project"	Not given fully in the paper.	Explanatory dummy variable (1 for consequential) in a binary logit model of SP.	No information.	Effect ("[…] respondents who believe that this study may influence policymakers to restore the PDS [Paraiba do sol] river are more likely to vote for the proposed project than those respondents who do not believe so", p. 616).	No information.
	Vazquez et al. (2021)	Description by the authors: "if the respondent thought that the CV survey could influence local authorities to improve water services"	Not given fully in the paper.	Explanatory dummy variable (1 for consesquential) in a binary logit model of SP.	No information.	Effect ("respondents who believed that our survey could have policy implications were 21% points more likely to vote for the proposed service improvement than those who believed otherwise", p. 9).	No information.
	Wicker and Coates (2018)	"I believe the results of this survey could affect decisions on sport in Germany"; "I believe the results of this survey will be shared with policymakers"	Not given fully in the paper.	Explanatory dummy variable (response scale = "somewhat/strongly agree") for each statement in a hurdle model of SP (a bivariate probit model and an interval regression model).	No information.	Effect ("Individuals who believe the results of the survey will be shared with policymakers are more likely to report a positive WTP, while those who think the results will affect policy decisions are significantly less likely to do so", p. 315)	No information.
	Wicker et al. (2017)	"I believe the results of this survey could affect decisions on sport in Germany"; "I believe the results of this survey will be shared with policy makers"	5-points, from 1 ("strongly disagree") to 5 ("strongly agree").	Explanatory dummy variable (response scale > 3) for each statement in a hurdle model of SP (a bivariate probit model and an interval regression model).	No information.	Effect ("Respondents who think this survey's results will affect German sport policy are significantly more likely to report a positive WTP. Furthermore, WTP is 22% higher when respondents think it will affect policy", p. 3608).	No information.
	Zawojska et al. (2019)	Description by the authors: "the degrees to which they [respondents] believed that the survey results would affect [… that] the project of the development of the renewable energy infrastructure will indeed be conducted in Poland in the next five years"	5-points, from 1 ("I definitely agree") to 5 ("I definitely disagree") + "I do not know" option.	Explained and explanatory latent variable in a hybrid choice RPL model of SP.	No information.	Effect ("[…] policy consequentiality […] increases […] willingness-to-pay for the project", p. 63).	No information.
X	Huth et al. (2015)	"I believe that the results of this survey will be shared with Florida Fish and Wildlife Conservation Commission policy makers"; "I believe that the results of this survey could affect decisions about artificial reef policy in Florida"	5-points, from 1 ("strongly disagree") to 5 ("strongly agree")	No information/No analysis involving perceived consequentiality.	No information.	No information.	No information.
X	Khachatryan et al. (2021)	"In your opinion, how likely is it that the results of this survey will shape the direction of future environment and sustainability-related practices, standards, and policies in the U.S. green industry?"	7-points, from 1 ("very unlikely") to 7 ("very likely")	Explained binary dummy variable (response scale > 4) interacted with attribute coefficients and corresponding standard deviations in RPL models.	No information	Effect ("[…] perceived consequentiality increased respondents' utility for the products").	Descriptive statistics on the consequentiality script and perceived consequentiality, Table 2.
X	Li et al. (2016)	"In your opinion, how likely are responses to this survey to influence the design of programs that reduce GHG [greenhouse gas] emissions associated with beef production?"	Not given fully in the paper.	Explanatory dummy variable (response scale = "likely" or "very likely") in a second-tier binary probit model of SP, where the first tier is a multinomial probit model of willingness to support the program.	No information.	Effect ("Respondents who believed their responses to the survey would influence the design of GHG [greenhouse gas] emission reduction programs for beef production were more likely to support the RCF [Raised Carbon Friendly] program and more likely to pay a premium for RCF certified beef", p. 102).	No information.
X	Morgan et al. (2018)	"I believe that the results from this survey could affect decisions about artificial reef policy in Florida"	5-points, from 1 ("strongly disagree") to 5 ("strongly agree").	Explanatory dummy variable (response scale > 2) in binary probit models of SP.	No information.	Effect ("[…] inconsequential resident WTP values are significantly lower than those of consequential residents, however there is no statistical difference in WTP values for nonresidents, by consequentiality type", p. 317-318).	No information.
X	Petrolia et al. (2019)	"How confident are you that this survey will influence whether this app is made available?"	10-points, from 1 ("not at all confident") to 10 ("very confident").	Explanatory continuous variable in binary probit models of SP and in a binary probit model of SP estimated for a sub-sample (response scale > 5).	No information.	Effect ("The likelihood of an affirmative WTP response increases significantly with […] the level of confidence that the survey will influence availibility of the app", p. 347).	No information.

	Role of an individual's responses						
	Bennett et al. (2018)	"My choices will have an impact on future waterway management in BCC [Blacktown City Council]"	4-points, from 1 ("strongly agree") "to 4 ("strongly disagree") + "I do not know" option	Inconsequential responses (response scale = 4) removed from the analysis.	No information.	No information.	No information.
	Börger et al. (forthcoming)	"My responses to this survey will have an influence on whether this initiative is implemented"	5-points, from 1 ("strongly disagree") to 5 ("strongly agree").	Explained and explanatory dummy variable (response scale > 2) in a trivariate probit model of SP and consequentiality.	"[...] to examine the potential endogeneity of consequentiality perceptions, we apply an instrumental variable approach based on a trivariate probit model"	Effect ("Perceptions of [...] policy consequentiality make it more likely that a respondent votes in favour of the initiative").	Effect of the cost amount ("Results show that consequentiality perceptions are a function of the tax amount, with [...] policy consequentiality increasing with higher tax amounts").
	Oehlmann and Meyerhoff (2017)	"To what extent do you believe that the choices among renewable energies you have just made will be taken into account in future decision making concerning the expansion of renewables energies?"	4-points, from 1 ("definitively considered") to 4 ("definitively not considered").	RPL models of SP estimated on only consequential participants (response scale < 4), on inconsequential participants (response scale = 4) and on pooled samples. Explained dummy variable (response scale < 4) in a binary logit model.	No information.	No effect ("[...] willingness to pay estimates do neither differ across treatments nor by the level of perceived consequentiality", p. 1).	Effect of the consequentiality script ("[...] participants are more inclined to perceive their responses to be at least somewhat consequential when the consequentiality device was presented", p. 1)
	Petrolia et al. (2014)	"When voting, how important did you think your vote would be in determining which option received the most votes?"; "How likely do you think it is that the results of this survey will shape the direction of future policy in the Lower Barataria-Terrebonne Estuary?"	3-points, from 1 ("very important") to 3 ("not important") + "I didn't really think about it"; 3-points, from 1 ("very likely"/"very important") to 3 ("unlikely"/"not important") + "I do not know" option	MNL and binary probit models of SP estimated on only consequential participants (response scale < 3 to at least one of the two questions) and on pooled samples.	No information.	Effect ("[...] including respondents who do not find their responses to be consequential can lead to some counterintuitive results", i.e., failure of "basic reasonable preference assumptions", p. 28; WTP differences in Tables 6 and 7, p. 29-30)	No information.
	Petrolia and Kim (2011)	Description by the authors: "[...] perceived influence of respondent choice on actual government action [...]"	Not given fully in the paper.	Explanatory ordinal variable (1 if "respondent thinks vote will have some influence on actual actions taken", 0 if "I do not know" and -1 if "respondent does not think so") in probability-weighted probit models of SP.	No information.	No effect ("No other factors were significant, including [...] perceived influence of respondent choice on actual government action", p 862-863).	Descriptive statistics on WTA-WTP treatments and perceived consequentiality, Table 3, p. 863.
	Scheufele and Bennett (2013)	"I believe that my choices will have an impact on how the area of land will be managed in the future"	5-points, from 1 ("strongly disagree") to 5 ("strongly agree").	No information/No analysis involving perceived consequentiality.	No information.	No information.	Descriptive statistics on the preference elicitation format and perceived consequentiality, Table 2, p. 222.
	Vossler et al. (2012)	"To what extent do you believe that your choices will be taken into account by public authorities?"	6-points, from 1 ("not at all") to 6 ("very strongly").	Explanatory continuous variable interacted with all choice attributes, intercept and scale in a censored regression model of SP.	"We initially considered the Consequential variable (and corresponding interaction variables) as endogenous in the WTP regression. However, using the variables [...] that met the exclusion restriction as well as occupation indicator variables as instruments, we fail to reject the hypothesis that the additional covariates [i.e., the Consequential variable and interactions of this variable] [...] are jointly exogenous (this finding is based on a GMM over-identification test)", p. 166	Effect ("[...] the marginal WTP for each project attribute is decreasing in the degree of consequentiality", p. 166).	Descriptive statistics on the hypothetical vs real payment nature, provision rule and perceived consequentiality, Table 6, p.167.
X	Drichoutis et al. (2017)	"To what extent do you believe that your answers in this survey will be taken into account by producers, traders and retailers?"	5-points, from 1 ("not at all") to 5 ("very much").	No information/No analysis involving perceived consequentiality.	No information.	No information.	No information.
X	Lewis et al. (2016)	"To what extent do you believe your answers will be taken into consideration by public authorities?"	6-points, from 1 ("not at all") to 6 ("very much").	RPL models of SP estimated on only consequential participants (response scale > 3) and on pooled samples.	No information.	No effect ("Similar to the results for bagged sugar, there were no distinct differences between the WTP estimates for the soft drink condition among the [...] [consequentiality-]truncated models", p. 6).	Effect of the consequentiality script ("[...] participants who saw the consequentiality script had a higher level of belief that their survey responses would be consequential", p. 1).
X	Lloyd-Smith and Adamowicz (2018)	"To what extent do you think your choices will be taken into account for determining the chances of being provided the Offer Stage?"	5-points, from 1 ("not at all") to 5 ("definitely taken into account").	Explained dummy variable (response scale for provision consequentiality > response scale for price consequentiality) in a binary probit model.	No information.	No information.	Effect of the consequentiality script and the hypothetical vs real payment nature ("[...] the provision framing treatment has a statistically significant impact on provision consequences", p. 142; a positive coefficient of a "hypothetical [payment] treatment" in the probit model with perceived consequentiality as a dependent variable, Table 4, p. 142).
X	Sardana (2019)*	"Do you believe that your response to this survey will influence whether the program to restore native trees will actually be implemented?"	2 options, "yes", "no" + "not sure" option.	Explanatory dummy variable (option = "yes" or option = "not sure") in a binary logit model of SP.	"The variable Program Success [1 if "yes" or "not sure" to the question: Do you believe that the program will succeed in restoring native trees if it is actually implemented, with more native trees being restored if it raises more money?] was also included in the estimation equation to address the problem of endogeneity", p. 367.	No effect (an insignificant coefficient estimate in Table 3, p. 370).	No information.
X	Watson et al. (2019)	Description by the authors: "We measured what respondents perceived to be the impact of their responses using questions proposed by Scheufele and Bennett [2013]".	5-points, from 1 ("strongly disagree") to 5 ("strongly agree").	No information/No analysis involving perceived consequentiality.	No information.	No information.	Effect of the survey administration mode ("Perceived consequentiality was significantly different across mode-frame pairs; CAPI [Computer-Assisted Personal Interviews] and IP-RN [Internet Panel-ResearchNow] respondents were more likely than mail respondents to agree or strongly agree that their responses would change how services are provided", p. 834).
X	Zheng et al. (2021)	"To what degree do you believe your choice will be taken into account by the industry and will affect the import and market supply of salmon in China?"	Not given fully in the paper.	Explained dummy variable (response scale = "strongly believe") in a binary logit model.	No information.	No information.	Effect of the consequentiality script ("the consequentiality perceptions are also enhanced by the script treatment")
	Role of an individual's and others' responses						
	Groothuis et al. (2017)	"To what extent do you believe that the indicated votes on the above proposal from you and other survey participants will be taken in to consideration by county policy makers?"	5-points, from 1 ("I believe policy makers will definitely not take the information into account") to 5 ("I believe policy makers will definitely take the information into account").	Explanatory and explained dummy variable (response scale > 2) in bivariate probit models of SP and consequentiality. Explanatory dummy variable (response scale > 2) in a binary probit model of SP. Binary probit models of SP estimated on only consequential participants (response scale > 2), on inconsequential participants (response scale < 3) and on pooled samples.	"We test for the determinants of consequentiality and consider endogeneity by estimating a joint bivariate probit model of consequentiality and willingness to pay", p. 259.	Effect ("[...] the observed effect of a survey being consequential increases the likelihood of a for vote [a 'yes' answer to the SP question]", p. 265).	Effect of the cost amount ("[...] as the assigned tax amount increases, respondents are less likely to find the survey consequential", p. 258).
	Lloyd-Smith et al. (2019)	"To what extent do you believe that the voting results collected from you and other survey respondents will be taken into consideration by policy makers?"	5-points, from 1 ("not at all") to 5 ("definitely taken into account").	Explanatory and explained dummy variable (response scale > 1) in a special regressor model of SP (two-stage least squares regression). Explanatory dummy variable (response scale > 1) in binary probit models of SP. Explained dummy variable (response scale > 1) in binary probit models.	"[...] using the special regressor approach to address endogeneity concerns [...]"), p 303.	Effect and No effect ("In naive models without endogeneity controls, perceived consequentiality is found to be an important determinant of voting behavior. However, using the special regressor approach [...], we find that consequentiality beliefs do not have a significant impact on voting", p. 303)	Effect the location of the consequentiality perception elicitation ("We test the effect of varying the order of the valuation and consequentiality questions [...]. We find that this ordering has a substantial impact on consequentiality perceptions.", p. 293). No effects of the cost amount and the consequentiality script ("[...] we do not find a significant effect of the tax amount presented to respondents on perceived consequentiality.", p. 301; "The partner information variable [...] is not statistically significant, which [...] [shows] the difficulty in inducing consequentiality perceptions", p. 301).
	Vossler and Holladay (2018)	"To what degree do you believe that the advisory referendum decision from you and other survey participants will affect whether a flood control system is built?"	5-points, from 1 ("no effect") to 5 ("absolutely crucial").	Explanatory dummy variable (response scale = 1 or no belief in payment consequentiality) interacted with treatment-specific indicators in an interval regression model of SP.	No information.	Effect ("inconsequentiality has a large and negative effect on WTP", p. 143, "there is a large and statistically significant effect of consequentiality on both PC [payment card] and SBC [single binary choice] values", p. 142).	Descriptive statistics on the preference elicitation format and perceived consequentiality, Table 8 and Table 10, p. 142.
	Vossler and Watson (2013)	"To what extent do you believe that the indicated votes on the Proposal from you and other survey participants will be taken into consideration by policy makers?"	5-points, from 1 ("not taken into account") to 5 ("definitely taken into account").	Explanatory dummy variable (response scale = 1) in an interval regression model of SP. An additional interval regression model of SP estimated on only consequential respondents (response scale > 1). Explained dummy variable (response scale > 1) in a probit model. Explained ordered consequentiality variable in an ordered probit model	"We explored the possibility of treating Inconsequential as endogenous [...]. The candidate instrumental variables we have available are unfortunately insufficiently correlated with Inconsequential, resulting in weak identification", p. 143.	Effect ("[...] inconsequential respondents have a statistically lower stated WTP", p. 143).	Effect of the survey administration mode ("[...] Internet respondents are more likely to believe the survey is consequential [than mail respondents]., p.145).

	Xu et al. (2021)	"To what extent do you agree that the survey results from you and other respondents will be taken in consideration by the government, which would result in that the project of the treatment of U. prolifera bloom will be actually carried out in Qingdao in the next five years?"	5-points, from 1 ("I definitely disagree") to 5 ("I definitely agree").	Explanatory continuous variable in an OLS model of SP. Explained continuous variable in an OLS model and explained ordered variable in an ordered logit model and an ordered probit model.	No information.	Effect ("Both policy and payment consequentiality express an obvious positive effect on the willingness to pay", p. 7).	No information.
X	McLeod et al. (2018)	"My responses and those from others responding to the survey will influence the outcome of a Tennessee Branded Beef program"	2 options, "yes", "no".	Explanatory dummy variable (option="yes") in a binary probit model of willingness to participate in the program and in a tobit model of live-weight beef pounds willing to supply to the program.	No information.	Effect ("Although Consequential did not influence willingness to participate in the TBBP [Tennessee Branded Beef Program], among those willing, it did significantly increase the number of pounds producers would supply", p. 596).	No information.
	Role of survey studies						
	Andor et al. (2018)	"How likely do you believe that results of surveys, such as the present one, influence policy decisions on the amount of the surcharge for the promotion of renewable energy technologies [...]?"	5-points, from 1 ("very unlikely") to 5 ("very likely").	OLS models of SP estimated on only consequential participants and on all participants.	No information.	Effect ("the propensity of accepting higher EEG [Renewable Energy Act/Erneuerbare Energien Gesetz] levies is higher among respondents who perceive the survey as consequential than for the entire sample", p. 878).	No information.
	Glenk and Martin-Ortega (2018)	"I believe that the results of surveys like this one will be ignored in policy discussions on peatland restoration"	4-points scale, from 1 ("completely disagree") to 4" completely agree").	Explanatory continuous variable in an OLS model of SP.	No information.	Effect ("If respondents believe that surveys such as the one conducted do not have influence on related policy discussions [...], WTP is affected negatively", p. 356).	No information.
	Herriges et al. (2010)	"How likely do you think it is that the results of surveys such as this one will affect decisions about water quality in Iowa lakes?"	5-points, from 1 ("no effect at all") to 5 ("definite effects").	Explanatory and explained ordinal variable in Bayesian estimation of a two-equation system.	"To address this concern [potential endogeneity, or unobserved confounding problem], a split sample treatment was administered in the survey. [...] This exogenous treatment aids us in estimating the 'causal' impacts of consequentiality perceptions on WTP", p. 68.	Effect ("we find support for the equality of WTP distributions among those believing the survey is at least minimally consequential, while those believing the survey will have no effect on policy have statistically different distributions associated with WTP", p. 80).	Effect of the consequentiality script ("[...] the indicator denoting the receipt of the highlighted article from the Iowa Conservationist, is positively associated with the perceived degree of consequentiality", p. 77).
	Meyer (2020)	"How likely do you think it is that the results of surveys such as this one will affect decisions about water quality in Michigan?"	5-points (not given fully in the paper).	No information/No analysis involving perceived consequentiality.	No information.	No information.	Effect of the virtual reality environment ("The average consequentiality for the VR [Virtual Reality] group was virtually the same as the picture group", p. 493).
X	Broadbent (2012)	"Do you believe that the results of surveys and experiments such as this can be consequential in policy decisions?"	2 options, "Yes, I believe they can be consequential", "No, I do not believe that they are consequential"	MNL models of SP estimated on only consequential participants (option = "Yes") and on all participants.	No information.	No effect ("[...] the use of a consequentiality question to calibrate participant responses is not found to change the results [WTP estimates] significantly", p. 2497).	Descriptive statistics on the hypothetical vs real payment nature and perceived consequentiality, Table 1, p. 2495.
	No relation to survey responses						
	Hagedoorn et al. (2020)	"I believe the changes shown in the experiment can take place in reality"	11-points (not given fully in the paper).	No information/No analysis involving perceived consequentiality.	No information.	No information.	Descriptive statistics on the payment vehicle (time versus money) and perceived consequentiality, Tables 3 and 4, p. 495-496.
	McDougall et al. (2020)	"How confident are you that the new Lochside Management Plan for Loch X will be carried out?"	5-points, from 1 ("very unconfident") to 5 ("very confident").	Explanatory dummy variable (response scale > 3) in binary logit and interval regression models of SP. Explanatory dummy variable (response scale > 3) in OLS models of "valuation gap".	No information.	Effect ("A significant positive association was identified between policy consequentiality and WTP", p. 9).	No information.
	Uncertain						
	Elías et al. (2019)	Description by the authors: "[...] whether they [respondents] believed that public authorities should take their answers into consideration, and whether they believed the authorities would take their answers into consideration"	5-points, from 1 ("not at all") to 5 ("very much").	Explanatory dummy variables (beliefs that public authorities should or would consider answers) in OLS models of SP. OLS models of SP estimated on only those who who stated that public authorities should consider their answers (response scale > 3) and on those who stated that public authorities would consider their answers (response scale > 1).	No information.	Effect (positive coefficient estimates of the dummy variables "Public authorities should consider answers" and "Public authorities will consider answers" in the Online Appendix, Table B9, p. 42).	No information.
	Forbes et al. (2015)	Description by the authors: "to what degree [they] thought [their] votes would influence management programs chosen for the species"	Not given fully in the paper.	Binary probit models of SP estimated on only consequential participants (response scale = "strong" or "very strong") and on all participants. Explained dummy variable (response scale = "strong" or "very strong") in a bivariate probit model of SP.	"To examine the possibility of a correlation between respondents' choices and their perceptions of survey consequentiality, a bivariate probit model was employed", p. 5.	Effect ("Welfare measures were found to differ significantly between those who believed their responses to be consequential and those who did not. The former provided measures that were significantly higher than the latter", p. 1).	No information.
X	Bergeron et al. (2019)	Description by the authors: "to what degree subjects thought that the amount they declared for Fairlife would influence it availability in France"	4-points, from 1 ("very unlikely") to 4 ("very likely").	Explanatory dummy variables (response scale > 2, its interaction with a belief in affecting prices, and interactions with a cheap talk treatment) in an OLS model of SP.	No information.	Effect ("[...] subjects could perceive the additional consequence that their declared values would provide information to help determine if the good should be provided locally. [...] the strategic response toward provision, an overbid of €0.67 [...]. [...] subjects perceiving a consequence on both price and provision increased their bid by €0.37", p. 81).	No effect of cheap talk ("The [cheap talk] script [...] does not change perceived consequence as indicated by the fact that no differences are observed in perceived consequence between [cheap-talk and no-cheap-talk] treatments", p. 81)
X	Li et al. (2018)	Description by the authors: "[...] how likely their [the participants'] responses to the survey would be to influence beef products offered"	3-points, from 1 ("not very likely") to 3 ("very likely") + "no opinion" option.	Explanatory dummy variable (response scale > 1) interacted with the alternative specific constant and attributes in a generalized MNL models of SP.	No information.	Effect ("For most attributes, belief in consequentiality increases WTP", p. 1).	No information.

Notes: SP denotes Stated Preferences, MNL - Multinomial Logit, RPL - Random Parameter Logit, OLS - Ordinary Least Squares, WTP - Willingness To Pay, WTA - Willingness To Accept and CV - Contingent Valuation.

* Sardana (2019) says: "We measured the consequentiality of the survey [...] by asking respondents the following question: 'Do you believe that the program will succeed in restoring native tree species if it is actually implemented, with more native trees being restored if it raises more money?'" (p. 365). However, subsequent information says that the cited question is used as the variable "Program Success" and that "The variable Program Success was also included in the estimation equation to address the problem of endogeneity (Herriges et al., 2010) that might arise in deriving the distribution of WTP estimates based on respondents' perception about the consequentiality of the survey" (p. 367). It would be impossible for the same question to serve as a consequentiality measure and as a control for endogeneity of consequentiality. We thus interpret that when Sardana (2019) speaks about perceived consequentiality, the author means the variable named "Program Implementation ('Do you believe that your response to this survey will influence whether the program to restore native trees will actually be implemented?')" (p. 367).