Journal of Social and Political Psychology

PsychOpen GOLD

Original Research Reports

Check for updates

Perceptions and Acceptability of Environmental Public Policies in Paris: A Social Justice Lens

Ellora Frémaux Miguel[1], Virginie Bonnot[1]

[1] *Laboratoire de psychologie sociale, Université Paris Cité, Boulogne-Billancourt, France.*

Journal of Social and Political Psychology, 2026, Vol. 14(1), 109–135, https://doi.org/10.5964/jspp.15807

Received: 2024-10-16 • **Accepted:** 2026-02-21 • **Published (VoR):** 2026-05-29

Handling Editor: Maria Fernandes-Jesus, University of Sussex, Brighton, United Kingdom

Corresponding Author: Ellora Frémaux Miguel, Université Paris Cité, Laboratoire de psychologie sociale, 71, avenue Edouard Vaillant, F-92100 Boulogne-Billancourt, France. E-mail: miguel.ellora@hotmail.fr

Supplementary Materials: Materials, Preregistration [see Index of Supplementary Materials]

Abstract

To effectively address current environmental challenges, public policies must provide solutions that are both adapted to and acceptable to the population. It is therefore essential to study the conditions that determine their acceptability. We conducted a quantitative study among Paris residents to explore their perceptions of local and concrete environmental public policies. The aim was to investigate the perceptions of Parisians (N = 699) regarding four environmental public policies implemented in the city of Paris. Specifically, the study examined the elements that most influence perceptions of fairness and the acceptability of these policies, in relation to their degree of coerciveness. Consistent with our hypotheses, the results show a significant relationship between perceived fairness and the acceptability of the policies. Moreover, participants seemed to place great importance on aspects of procedural justice and distributive justice, as well as the opportunity to improve the current socioeconomic system. This tendency was present regardless of whether the policy was coercive or voluntary. Contrary to our expectations, in our study, perceived limitations on residents' freedoms were not directly linked to the perception of fairness and acceptability for coercive policies. Similarly, perceived effectiveness was not particularly linked to perceptions of fairness and acceptability for less coercive policies. These findings have important implications for the design of local public policies.

Keywords

public perceptions, acceptability, social justice, environmental public policies, City of Paris

Résumé

Pour relever efficacement les défis environnementaux actuels, les politiques publiques doivent proposer des solutions à la fois adaptées et acceptables par la population. Il est donc essentiel d'étudier les conditions qui déterminent cette acceptabilité. Nous avons mené une étude quantitative auprès des habitantes et habitants de Paris afin d'explorer leurs perceptions de politiques publiques environnementales locales et concrètes. L'objectif était d'examiner les perceptions de 699 personnes résidant à Paris concernant quatre politiques mises en œuvre dans la ville. Plus précisément, l'étude s'est intéressée aux éléments influençant le plus la perception de justice et l'acceptabilité de ces politiques, en fonction de leur nature (coercitive ou non). Conformément à nos hypothèses, les résultats montrent un lien significatif entre perception de justice et acceptabilité. De plus, les personnes participantes semblent accorder une grande importance aux aspects de justice procédurale et distributive, ainsi qu'à l'opportunité d'améliorer le système socio-économique actuel. Cette tendance est présente indépendamment du caractère coercitif ou volontaire des politiques. Contrairement à nos attentes, dans notre étude, la limitation perçue des libertés des habitants n'était pas directement liée aux perceptions de justice et d'acceptabilité pour les politiques coercitives. De même, l'efficacité perçue n'était pas particulièrement liée aux perceptions de justice et d'acceptabilité pour les politiques moins coercitives. Ces résultats ont des implications importantes pour la conception de politiques publiques locales.

Mots-clés

perceptions du public, acceptabilité, justice sociale, politiques publiques environnementales, Ville de Paris

Non-Technical Summary

Background

The environmental and climate emergency requires the implementation of environmental policies that are not only effective but also fair and acceptable to the population. Furthermore, challenges of acceptability are closely linked to the social realities of different territories. To study these dynamics, it is useful to focus on a local scale by surveying a specific population about concrete environmental policies.

Why was this study done?

Our objective was to understand how the environmental public policies of the city of Paris are perceived by its residents. We aimed to identify the factors that make a policy seem fair and acceptable, in order to determine which aspects should be given special attention when designing environmental policies for the Parisian territory.

What did the researchers do and find?

We surveyed the perceptions of 669 Parisians regarding four different environmental policies: bicycle subsidy, restrictions on polluting vehicles, the development of bike paths, and vegetarian meals in public catering. The research suggests that, regardless of the more or less coercive nature of the environmental policies, individuals place great importance on the distributive outcomes, specifically regarding constraints imposed by the decision on individuals and benefits they can derive from the decision (distributive justice) when forming their perceptions of fairness. Additionally, the way in which policies are designed and implemented (procedural justice) appears to significantly influence the extent to which individuals perceive them as fair. Finally, the more individuals see an environmental policy as an opportunity to improve lifestyles and the functioning of current society, the more they perceive it as fair and acceptable.

What do these findings mean?

Our research can shed light on how environmental policies are perceived in Paris. It highlights the importance of considering, informing, and listening to citizens during the development and implementation process. Furthermore, policies must take into account the shared responsibilities, capacities, and vulnerabilities of individuals in relation to the benefits and constraints created by the policy. These findings underscore the importance of designing environmental policies that consider broader changes in lifestyles and societal functioning.

In the context of pressing environmental challenges, environmental public policies (EPPs) are key components of solutions aimed at mitigating the effects of climate change (Intergovernmental Panel on Climate Change, 2023). EPPs are public-sector interventions that use various instruments to promote changes among target groups, addressing environmental issues (Alaux, 2012). The success of these policies depends on their ability to adapt to the specificities of the territories they regulate and the associated social realities (Duran, 2018). Therefore, it is crucial to consider the affected populations by designing policies that they consider acceptable. As highlighted by Poortinga (2025), public responses to EPPs are shaped by both their design and the way they are perceived and appraised by the public. Our study builds on this perspective by examining how different aspects contribute to these evaluations. Specifically, we investigate how Parisians perceive the EPPs implemented in the city of Paris by 1) exploring the factors related to perceptions of fairness and acceptability, considering whether the policies are coercive or voluntary, and 2) comparing different concrete EPPs.

Acceptability of EPPS and Social Justice: Nature of EPPs and Perceptions

According to the report by the Haut Conseil pour le Climat (High Council for Climate, 2021), investigating the acceptability of public policies allows us to understand how the characteristics of a policy shape the perceptions of the individuals concerned. Studying the conditions of acceptability places the citizen in an active role and the policy itself in a dynamic process of interaction. In this context, social justice is a key to the success of any EPP. Indeed, a meta-analysis by Bergquist et al. (2022), which examined 76 datasets from 34 countries, suggests that perceived fairness is the most significant determinant of EPP acceptability. Moreover, research has shown that policy acceptability depends on both individual dispositions and policy characteristics (Poortinga et al., 2012; Zawadzki et al., 2022), and that the effect of these characteristics on acceptability operates in part through the perceptions of fairness they elicit (Maestre-Andrés et al., 2019; Poortinga, 2025). The present study focuses on how individuals perceive specific policy features and how these perceptions shape acceptability. Therefore, we need to pay attention to the characteristics of EPPs in particular regarding their coercive degree.

Indeed, some policy features seem especially relevant for distinguishing between EPPs. Public policies can be classified as either incentive-based, which encourage certain behaviors (e.g., by offering benefits), or disincentive-based, which discourage behaviors by imposing penalties (Swim & Geiger, 2021). Additionally, policies can be either voluntary (allowing individuals to choose) or coercive (imposed on individuals). Research by Swim and Geiger (2021) in the U.S. shows that people generally prefer incentive-based policies over disincentive-based ones, especially when these policies target individuals. Indeed, incentive-based policies would be seen as more beneficial for both people and the economy and more effective in addressing climate change. These preferences could reflect people's reluctance to change their habits. Incentive-based measures allow individuals to make a choice without facing penalties, while disincentive-based measures penalize those who refuse to change. By increasing the cost of non-compliance, such measures are often perceived as restricting individuals in their everyday lives (Huber et al., 2020). These perceptions may explain why disincentive-based policies are often seen as more coercive, whereas incentive-based ones are perceived as more voluntary.

Accordingly, people's preferences often depend on whether the policy is coercive or voluntary, and this is partly explained by the perceptions they hold of such policies. Thus, we took into consideration the coercive nature of the EPPs when examining the determinants identified as important for perceived fairness and acceptability, that is: perceived procedural justice, perceived distributive justice, perceived effectiveness, perceived limitations on freedom, perceived threat to the socioeconomic system (SeS), and perceived opportunity to improve the SeS.

Some studies have already directly examined perceptions of various characteristics of policy measures. For instance, Schmöcker et al. (2012, see also Kim et al., 2014) jointly investigated perceptions of procedural justice, distributive justice, environmental effectiveness and restrictions on individual freedom. Their results suggest that these perceptions are indeed related to the acceptance of the proposed tax policy. However, this study assessed perceptions of a hypothetical EPP based solely on a student sample, while giving little attention to perceived distributive justice. We propose to re-examine these elements jointly, using a more diverse sample, and adding two factors related to the perceived impacts of the EPP on the SeS.

Factors Determining Perception of Justice and Acceptability

The first factor we consider is procedural justice. Procedural justice concerns the process of decision-making and implementation (Opotow, 2018) and refers to the extent to which public policies are developed and applied fairly. It relies on effectively informing citizens, showing them consideration, and listening to their concerns (Grimes, 2006). Procedural justice, especially participation, must ensure the inclusion of vulnerable groups in decision-making processes related to the design and implementation of EPPs, in order to avoid reinforcing inequalities (Newell et al., 2021). Procedural aspects are strongly linked to the acceptance of EPPs (Bergquist et al., 2022), particularly at the local level (Gross, 2007), through perceived fairness (Hsieh, 2022). Moreover, according to Tyler (1994), procedural justice can help foster broad public support: individuals with differing interests may, at the very least, agree on procedures they consider fair. Therefore, the perception of procedural justice might be particularly important for the acceptance of EPPs that are not universally supported and are sensitive to individual interests, such as more coercive EPPs. Thus, perceived procedural justice could be a key determinant of how individuals perceive an EPP as fair, particularly when the policy is coercive (e.g., policies involving restrictions).

Another factor that research generally emphasizes is distributive justice, which may stem from procedural justice. Distributive justice refers to the outcomes of decisions, specifically the fair sharing of the burdens and benefits they impose on individuals (Opotow, 2018). It can therefore refer to the costs and benefits of a public policy. Several studies suggest that distributive justice is indeed linked to perceiving an EPP as fair and, therefore, acceptable (e.g., Hsieh, 2022) and is among the most important determinants of public opinion toward various climate policies (Bergquist et al., 2022). Perceived distributive justice may thus play a central role in shaping how individuals evaluate the fairness of EPPs, irrespective of their coercive nature.

However, we have identified several gaps in research on distributive justice applied to EEPs that we consider important to address in the present study. In Schmöcker et al. (2012), distributive justice did not appear as an important determinant of perceived fairness and acceptance. One possible explanation for this finding is that the only item used

to operationalize it was "Do you think this environmental tax is impartial?" However, the concept of impartiality of a policy is more akin to that of equality (i.e., impacting everyone without distinction) rather than that of equity or justice (i.e., impacting individuals while taking their vulnerability into account). Besides the vulnerability dimension, other features of distributive justice also need to be taken into consideration. Indeed, in the context of EPPs, Schuitema et al. (2011) proposed that perceptions of an EPP's distributive effects rely on the evaluation of its consequences through interpersonal comparisons in terms of vulnerability, capacity, and responsibility: Are all individuals equally affected (vulnerability)? Are they impacted proportionally to their resources (capacity)? Are they affected in proportion to their contribution to the problem addressed by the EPP (responsibility)? Indeed, an EPP should involve various stakeholders (Wan et al., 2017) in a way that does not disproportionately impact those who are economically vulnerable, as they are often the least responsible for environmental issues (Guivarch & Taconet, 2020) and have less capacity to act (Lebaron & Blavier, 2017). Finally, some studies (e.g., Schmöcker et al., 2012) measure distributive justice using a single, very general item, or employ very specific items that are not applicable to other EPPs (e.g., Hsieh, 2022, on the acceptance of a road pricing policy). Therefore, we propose to use a measure of distributive justice that is better suited and applicable to a broader range of EPPs, while taking into account the three dimensions identified in the literature: vulnerability, capacity and responsibility.

The question of how burdens are distributed and who is impacted (e.g., in terms of responsibility) could be closely linked to a policy's perceived effectiveness in achieving its intended environmental outcomes. For example, incentive-based EPPs that rely solely on the willingness of citizens and businesses might ultimately be perceived as less fair than coercive measures (Montada & Kals, 1995). This is because as they do not exert pressure on individuals to change, they could fail to impact those most responsible and, as a result, fall short of achieving their environmental goals. Thus, even though individuals tend to prefer incentive-based, non-coercive EPPs, a voluntary policy might be seen as less fair due to its perceived ineffectiveness (Clayton et al., 2016; Eriksson et al., 2008). Previous studies have shown that the more individuals perceive an EPP as effective in addressing environmental challenges, the more they consider it to be acceptable (Bergquist et al., 2022; Dreyer & Walker, 2013; Ejelöv & Nilsson, 2020) and fair (Eriksson et al., 2008). These findings highlight the potential role of perceived effectiveness in shaping both fairness evaluations and the acceptability of EPPs, particularly when they are non-coercive (e.g., subsidy policies).

Often depending on the nature of the policy measure (coercive or voluntary), perceived limitations on individual freedom also appear to play an important role (e.g., Eriksson et al., 2006). Studies on coercive and disincentive-based measures, primarily in the field of transportation, suggest that the more an EPP is perceived as limiting individual freedoms, the less it is seen as fair (Eriksson et al., 2006) and the less it is

supported or accepted (Hsieh, 2022; Jagers et al., 2018; Kim et al., 2014). Freedom is indeed considered a fundamental principle of justice (e.g., Jost & Kay, 2010). These findings suggest that perceived limitations on freedoms could determine perceived fairness and acceptability, particularly for EPPs with a coercive nature (e.g., policies involving restrictions). Moreover, as collective considerations may be more important than personal ones (Bergquist et al., 2022; Kallbekken & Sælen, 2011), limitations of freedom at the collective (rather than individual) level are likely to explain perceptions of fairness and acceptability. As a result, and unlike previous studies (e.g., Eriksson et al., 2006; Hsieh, 2022), we propose to examine the perceived consequences for freedoms at the collective level (i.e., for inhabitants in general) rather than at the individual level (i.e., for the respondent).

The emphasis on freedoms may reflect a reluctance to change one's lifestyle and the current functioning of society, as individuals prefer policies that allow them the freedom to choose not to change (Swim & Geiger, 2021). This highlights a new dimension that we consider important to address: the policy's perceived impact on the way society functions. Since the current economic system is largely responsible for environmental problems (Rockström et al., 2009), acknowledging their existence would, to some extent, mean recognizing the system's role in their emergence. Recognizing the system's flaws would imply the need to change it (Feygina et al., 2010). However, according to system justification theory, individuals tend to defend and justify the status quo (Jost & Hunyady, 2005). Studies conducted in the United States show that a strong tendency to defend and justify the SeS is associated with a greater denial of the realities of climate change (Feygina et al., 2010; Goldsmith et al., 2013), and these findings have been replicated in the French context (Labarre & Felonneau, 2022). Thus, the rejection of an EPP by individuals could partly be explained by the perception that it attempts to modify the current system (e.g., involving risks to employment) and, therefore, poses a threat to it.

Nevertheless, French people may be relatively inclined to question the actual SeS (e.g., Caillaud & Flick, 2013) and to be aware of environmental issues and the need to change the system to address them. According to a "Parlons Climat" survey (Let's talk climate, 2022), 70% of French respondents (4,000 adults, representative of the French population) believe that the current economic model is incompatible with the fight against climate change. Furthermore, 57% of the French population believes that a significant change in their ways of life is primarily what will limit climate change (International Observatory on Climate and Public Opinion [Obs'COP], 2022). Moreover, as most French citizens tend to perceive society as relatively unjust (Boutaud, 2020; Jetten et al., 2020), an EPP seen as an attempt to improve the current SeS may therefore be perceived as fair. Therefore, environmental policies that genuinely aim to improve the current system, as opposed to so-called "greenwashing" policies, might be what individuals expect to some

extent. In this sense, individuals could question the extent to which EPPs represent an opportunity for systemic change.

It is important to note that the perception of opportunity and the perception of threat may not be perfect opposites. For instance, an EPP that is seen as having little impact on the current functioning of society might be perceived neither as a threat nor as an opportunity for changing the SeS. Moreover, some individuals advocating for a profound system change may perceive the EPP both as a threat to the system and as an opportunity to improve it. Thus, it may be insightful to examine both perceptions separately.

The originality of this study lies in several aspects. First, we propose to use a measure of distributive justice across three dimensions (vulnerability, capacity, and responsibility), applied consistently to all the EPPs studied, which has rarely been done before. Secondly, we include two relatively understudied factors in the context of EPP acceptability, both related to perceptions of changes in the SeS. Most research examining considerations related to SeS impacts tends to focus on broad outcomes, such as the denial of environmental problems (e.g., Hennes et al., 2016; Labarre & Felonneau, 2022) or general pro-environmental attitudes and behaviors (e.g., Feygina et al., 2010; Harring & Sohlberg, 2017). In addition, these studies have mostly focused on threat to SeS considerations, while giving less attention to perceived opportunities to improve the SeS. Yet, as some individuals in France may view the current SeS as unfair and call for its transformation (Boutaud, 2020; Jetten et al., 2020), we propose that the opportunity to improve it could be a key determinant in the evaluation of EPPs. Moreover, studying these considerations in connection with concrete EPPs, which are likely to directly affect individuals, could help us understand how people perceive the characteristics of specific policies as they interact with the socioeconomic status quo. Therefore, we propose to situate our study within a concrete context, using EPPs specifically selected for this purpose.

Study Context: Environmental Policies in Paris

Perceptions, for example about environmental problems, are context-dependent and vary according to the population surveyed (Navarro, 2022). Therefore, it is pertinent to study these perceptions within a well-defined territorial and social context, examining individuals' responses to policies that directly concern them. Paris provides an interesting setting for this inquiry. It is a rapidly changing city, with a population that is urban in character but diverse in socioeconomic status and modes of transportation. In terms of political context, since 2001, the City of Paris has been a left-wing administration, even if each district has its own political affiliation. Moreover, the City is heavily invested in environmental protection efforts (Agence Régionale Énergie-Climat [Regional Energy and Climate Agency], 2021) and has long been committed to implementing related policies. For example, since 2007, it has introduced various 'Plans Climat' to guide its public policy.

Against this background, we focus on how Parisians perceive four local EPPs:

- Subsidy for the purchase of bicycles (regular, electric, or cargo bikes), subject to an income ceiling.
- Restrictions on the circulation of the most polluting vehicles as part of the Low Emission Zone (LEZ), with a classification system based on vehicle emissions.
- Expansion of cycling lanes with the goal of achieving a 100% bike-friendly city.
- Implementation of two vegetarian meals served to everyone twice a week in collective catering, particularly in schools, retirement homes, and municipal dining facilities.

The selection of these four policies resulted from a broader review of documents produced by the City of Paris (e.g., Plan Climat 2018-2024), as well as interviews with eight people working in the municipal services responsible for the development and implementation of these policies. Our aim was to focus on policies that are relatively effective in addressing key environmental issues, while also raising potential concerns around public acceptability. Based on the above interviews and a pre-test (N = 14), we also selected policies that are more likely to be relatively easy to understand and that feel concrete to individuals. Moreover, we sought to include policies with varying degrees of perceived coerciveness to compare how this influences the weight of different perceptions in acceptability judgments. Because individuals may evaluate policies differently than researchers do (Ejelöv & Nilsson, 2020), we conducted an a priori classification of the EPPs by level of coerciveness and then empirically verified it using respondents' perceptions. To this end, perceptions of freedom limitations are used as a proxy to empirically assess whether respondents' perceptions align with our a priori classification of the four policies by coerciveness.

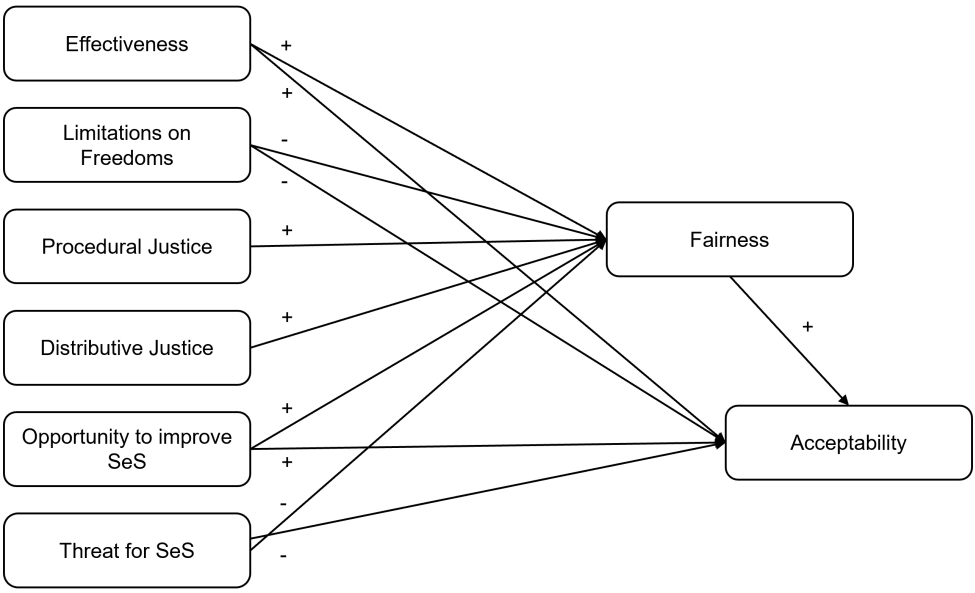
In particular, we prioritized policies related to mobility and food due to their significant environmental impact (Rampalli et al., 2023; Intergovernmental Panel on Climate Change [IPCC], 2022). Mobility policies, such as restrictions on car use or the promotion of cycling, affect how people commute, access services, or travel within the city. Similarly, food-related measures influence daily consumption habits deeply embedded in social practices (Castelo et al., 2021). Furthermore, because they can alter everyday habits, by changing how people travel or what they eat, and by affecting perceptions of cost, accessibility, and personal choice, these policies are likely to appear concrete to individuals. National surveys have already provided some insight into French attitudes toward various types of EPPs and behaviors. For example, policies targeting individual behaviors tend to be less accepted than those promoting new energy production modes (Obs'COP, 2022). Additionally, while behaviors like cycling and reducing meat consumption are still relatively uncommon, practices such as waste sorting or prioritizing seasonal vegetables are more widely reported (Boy et al., 2022). Therefore, policies aimed at promoting less polluting mobility options or encouraging vegetarian diets face acceptability challenges.

The goal of this study is to explore the conditions under which these EPPs are perceived as acceptable.

To sum up, the objective of the present research is to study Parisians' perceptions of four EPPs implemented in the city of Paris: bicycle subsidy, development of bicycle paths, restrictions on polluting vehicles, and vegetarian menus in collective catering. The general hypothesis is that perceptions of effectiveness, perceived limitations on freedoms, perceived procedural justice, perceived distributive justice, perceived threat to the SeS, and perceived opportunity to improve SeS explain the perceptions of fairness and acceptability of the EPPs presented (see Figure 1). By considering these factors together, our model can contribute to a deeper understanding of how individuals perceive the acceptability of local EPPs through the lens of social justice.

Figure 1

Representation of the Hypothesized Model



In addition to and complementary to the general hypothesis, we propose the following specific hypotheses:

- *Hypothesis 1*: The more individuals perceive an EPP as fair, the more they will perceive it as acceptable, with perceived fairness expected to play a mediating role.
- *Hypothesis 2*: Regardless of the nature of the EPP, perceived distributive justice will be the most important determinant of perceived fairness.

Additionally, the importance given to the various elements determining perceptions of fairness and acceptability may depend on the nature of the EPP:

- *Hypothesis 3*: In the least coercive EPP (i.e., bicycle subsidy), while distributive justice will remain the strongest predictor of fairness and acceptability, perceived effectiveness is expected to emerge as a significant secondary predictor.
- *Hypothesis 4a* and *4b*: For the most coercive EPP (i.e., restrictions on polluting vehicles), perceived limitations on freedoms and procedural justice will be most strongly related to the perception of fairness and acceptability of the EPP, following distributive justice.

Method

Participants

In total, 798 Paris residents completed our questionnaire. Our final sample (N = 699) includes more retirees (214 compared to a target of 126) and fewer students (21 compared to a target of 84) than the actual population, which also affects the average age. Participants' ages range from 18 to 89 years (M = 52.45; SD = 17.18), with 382 women, 314 men, and 3 individuals who preferred not to disclose their gender. Our sample is balanced in terms of political orientation (M = 5.40; SD = 2.02; on a scale from 1 = far left to 10 = far right) and subjective socioeconomic status (MacArthur's scale from Adler et al., 2000; M = 5.86, SD = 1.78; 1 representing the lowest socioeconomic status and 10 representing the highest). Additionally, participants reported feeling relatively concerned by each of the four EPPs ($3.67 < M < 4.49$ on a scale from 1 to 7; $2.00 < SD < 2.13$).

Procedure and Measurements

Ethical approval was obtained from the University Paris Cité Ethics Committee (N° 2023-48). The study was presented as being conducted in partnership with the City of Paris, aiming to collect participants' opinions on various EPPs. Participants were provided with all relevant information, including the voluntary nature of participation and the anonymity of data collection. They indicated their consent by checking a box and clicking the "Next" button before beginning the questionnaire. Participants were also informed that they could withdraw at any time without penalty. At the end of the study, participants were thanked for their participation and debriefed about the study's objectives. During this debriefing, we clarified that the EPPs were necessarily presented in a summarized form and provided resources for participants to learn more about them.

Data were collected during June 2023. Participants were recruited through a panel provider (Bilendi) and completed our study via an online questionnaire hosted on Lime Survey. Participants were compensated with points that could be redeemed for gifts.

As suggested for SEM analyses (Kline, 2015), the sample size was determined using the criterion of 20 participants per estimated parameter, resulting, for our 34 estimated parameters, in a target of 680.

We aimed to ensure that the sample was representative of the Parisian population in terms of gender, age, socio-professional category (according to the classification of the French National Institute of Statistics and Economic Studies [INSEE]), and district of residence (which vary in wealth; INSEE, 2015), so we collected these sociodemographic variables, as well as political orientation and subjective socioeconomic status.

To ensure the highest data quality, participants who failed one or both of the two attention-check questions were excluded from the data. We also excluded participants with response times that were either too short (less than the median time divided by 2.5) or too long (greater than the median time multiplied by 2.5), as outlined in our preregistration (https://aspredicted.org/2FB_2YX). Additionally, we conducted outlier tests, as recommended for path analysis (Aguinis et al., 2013; Kline, 2015). In total, data from 699 participants were retained for analysis.

Descriptions of each of the four different EPPs (bicycle subsidy, vehicle restrictions, cycling path, vegetarian menus) were presented to all participants. The descriptions (available in the Supplementary Materials) were designed to be as concise and informative as possible to ensure that all participants had enough information about the EPPs to form an opinion. Following each description, participants reported their perceptions of the EPP they had just read about. These measures are described in the order in which they were presented to the participants (details of the items are available in the Supplementary Materials). Participants responded to each item by indicating their level of agreement on a 7-point Likert scale ranging from "1 – Strongly disagree" to "7 – Strongly agree".

Effectiveness

To assess the extent to which participants perceive the presented EPP as effective in addressing environmental issues, an item adapted from Clayton (2018) was used: "This measure can help address environmental problems."

Procedural Justice

To evaluate the extent to which participants perceived the presented EPP as procedurally fair, we adapted a scale from Grimes (2006). The scale includes three dimensions of procedural justice: receptivity of the institution, information provided to the residents, and consideration for them (e.g., "Regarding this measure, the City of Paris takes its residents into account."). Cronbach's alpha ranges between .88 and .91 for our four EPPs ($\alpha > .80$). The confirmatory factor analysis (CFA) indicates good psychometric quality for our scale across all four EPPs (CFI > .90; RMSEA and SRMR < .08), with each item contributing substantially to the factor (all factor loadings ≥ .72, $p < .001$).

Opportunity to Improve SeS

We developed a two-item scale to gauge the extent to which they believed the measure represented an opportunity for system improvement (e.g., "This measure represents an opportunity to improve how society functions, for example, economically or socially."). The Spearman-Brown coefficient (ρSB ≥ .80) suggests good reliability for the scale across our four EPPs (Eisinga et al., 2013).

Distributive Justice

To measure the extent to which participants perceive the presented EPP as fair in terms of distribution, we constructed items based on the proposals of Schuitema et al. (2011). The scale includes three dimensions of distributive justice (responsibility, capacity, vulnerability), with items such as: "This measure avoids creating or reinforcing socioeconomic inequalities among Parisians." Cronbach's alpha ranges between .87 and .90 for our four EPPs. The CFA indicates good psychometric quality for our scale across all four EPPs (CFI > .90; RMSEA and SRMR < .08), with each item showing a strong contribution to the factor (all factor loadings ≥ .79, $p < .001$).

Limitations on Freedoms

Participants indicated the extent to which they believed the EPP might impact freedoms using an item adapted from Kim et al. (2014): "This measure is likely to limit the freedoms of Parisians."

Threat to the SeS

To assess the extent to which participants perceive the presented EPP as a threat to the SeS, we proposed two items (e.g., "This measure threatens the way society currently functions."). The Spearman-Brown coefficient (ρSB ≥ .81) suggests good reliability for the scale across our four EPPs.

Perceived Fairness

Participants indicated the extent to which they perceived the EPP as fair using an item adapted from Clayton (2018): "This measure is fair."

Acceptability

Participants indicated the extent to which they perceived the EPP as acceptable by responding to an item adapted from Clayton (2018): "This measure is acceptable."

Relevance

Finally, to ensure that participants in our sample generally felt concerned about each EPP, we developed a relevance item: "To what extent do you feel that this policy measure is relevant to you?"

Results

Preliminary Analysis

Perceptions Related to the EPP

The correlations between the different variables of our study, as well as the means and standard deviations for each of the four EPPs, are available in the Supplementary Materials.

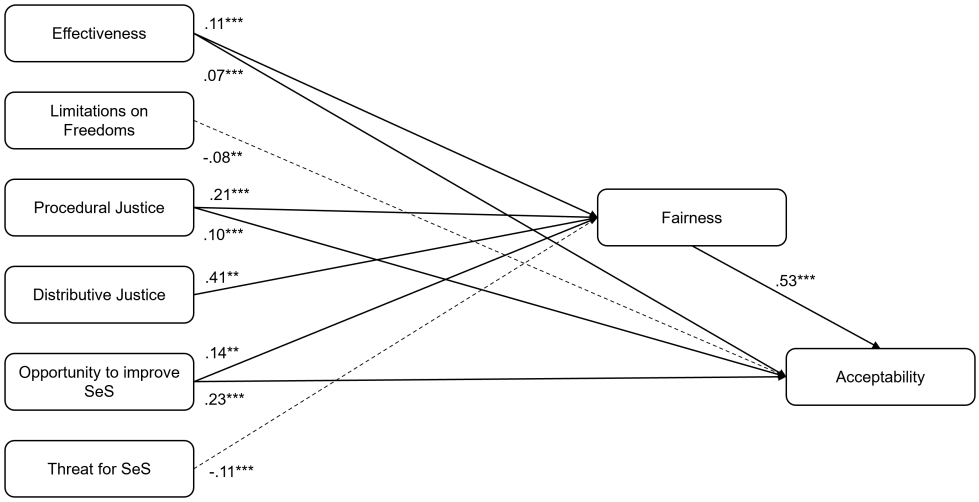
The measure of perceived limitations on freedoms allows us to first verify whether our a priori estimation of the coercive nature of the presented EPPs corresponds to the estimation made by the participants. The results of a repeated measures ANOVA show that the EPPs differ in terms of perceived limitations on freedoms, $F(3,2778) = 10.09$, $p < .001$. Tukey's test results indicate that vehicle restriction policy is indeed considered the most coercive measure, while bicycle subsidy is viewed as the least coercive, $t(694) = -15.49$, $p < .001$. The cycle path and vegetarian menu policies are perceived as less coercive than vehicle restrictions, $t(694) = 8.93$, $t(688) = 9.89$, $p < .001$, but more coercive than bicycle subsidy, $t(698) = -9.58$, $t(692) = -7.30$, $p < .001$.

Model Testing

To test our hypotheses, we conducted path analysis, testing one model for each EPP, with acceptability as the dependent variable, fairness as the mediating variable, and perceptions of effectiveness, limitations on freedoms, procedural justice, distributive justice, opportunity to improve SeS, and threat to SeS as independent variables. Each model, corresponding to each of the four EPPs, is represented in Figure 2, Figure 3, Figure 4, and Figure 5. Each model was initially tested by incorporating gender, age, political orientation, and subjective socioeconomic status as variables. Since the results do not change after introducing these variables, we present the most parsimonious model. The indices indicate that our models fit the data well (Hu & Bentler, 1999) for the bicycle subsidy policy, CFI = 1.00; SRMR = .001; RMSEA [90% CI] = .021 [.000, .106]; for the vehicle restriction policy, CFI = 0.99; SRMR = .002; RMSEA [90% CI] = .052 [.000, .127]; for the cycle path development policy, CFI = 1.00; SRMR = .000; RMSEA [90% CI] = .000 [.000, .065]; and for the vegetarian menu policy, CFI = 0.99; SRMR = .002; RMSEA [90% CI] = .047 [.000, .123].

Figure 2

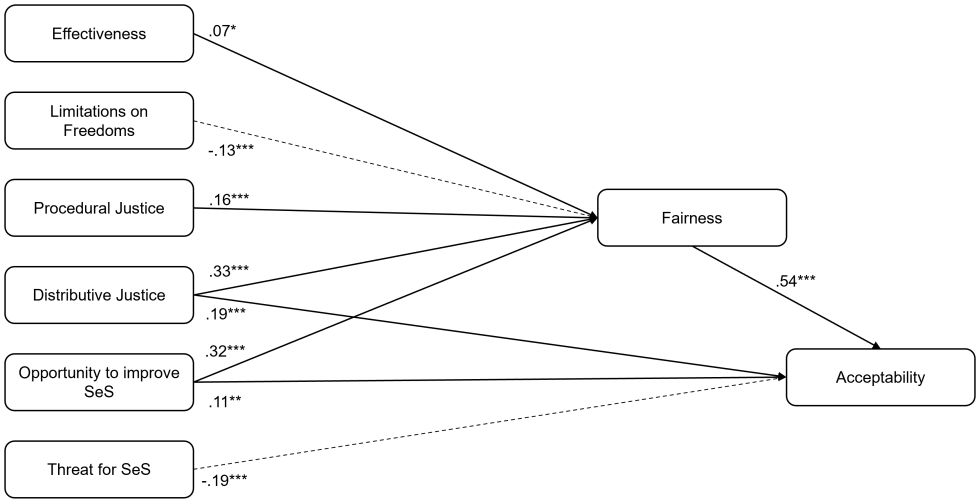
Path Analysis of the Acceptability Model for the Bicycle Subsidy Policy



Note. The dotted paths represent negative links.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Figure 3

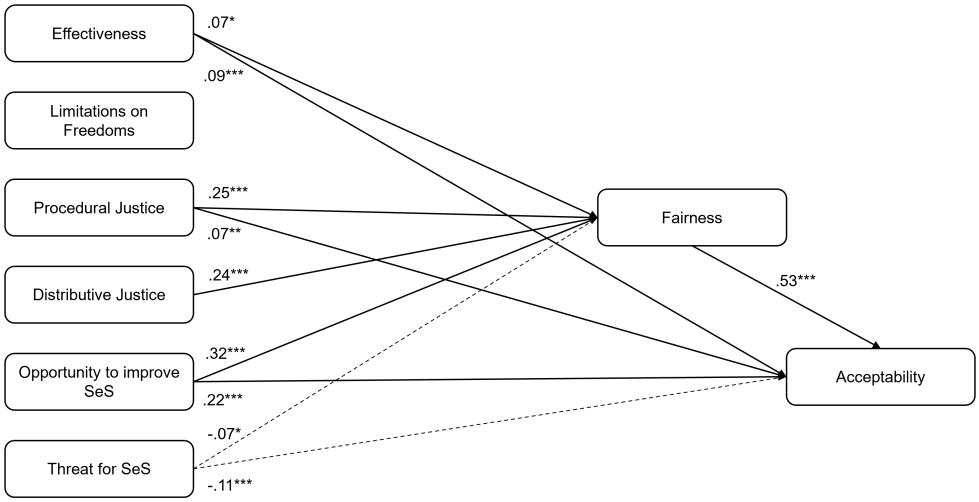
Path Analysis of the Acceptability Model for the Vegetarian Menu Policy



Note. The dotted paths represent negative links.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Figure 4

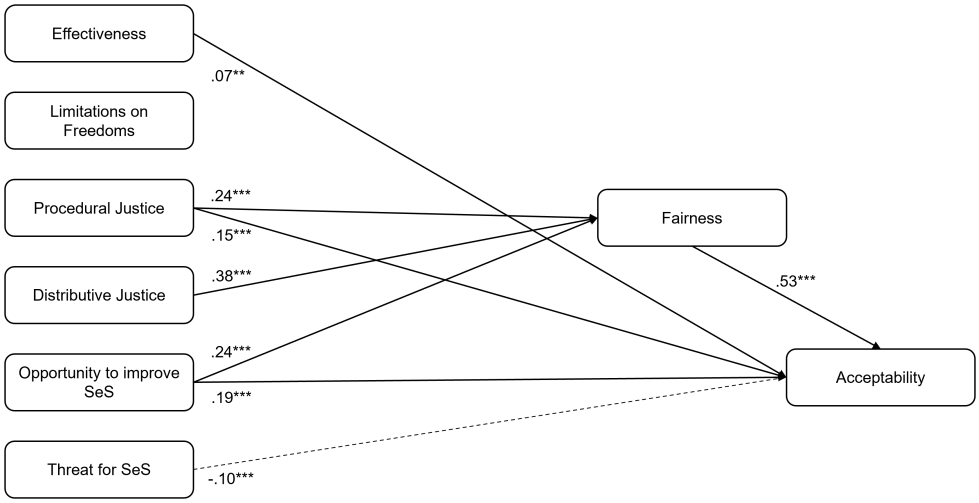
Path Analysis of the Acceptability Model for the Cycle Path Policy



Note. The dotted paths represent negative links.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Figure 5

Path Analysis of the Acceptability Model for the Vehicle Restriction Policy



Note. The dotted paths represent negative links.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

The results of the path analyses are presented in Table 1. The total effects of each variable on acceptability are available in the Supplementary Materials. We used a threshold criterion of .30 to consider our standardized coefficients as relatively important (Cohen, 1992). To test the respective weight of the factors in fairness perception and acceptability (testing Hypotheses 2, 3, and 4), Wald tests were also conducted (Kwan & Chan, 2011).

Table 1

Standardized Coefficients for the Path Analysis of Each Presented PPE, and Model Fit Indices

	Bicycle Subsidy		Vegetarian Menus		Cycle Path		Vehicle restrictions	
Path	**Coeff. Std**	***SE***	**Coeff. Std**	***SE***	**Coeff. Std**	***SE***	**Coeff. Std**	***SE***
Eff → Fair	.11**	.04	.07*	.03	.07*	.03	.05	.03
Freed → Fair	.05	.04	-.13***	.03	-.05	.03	-.05	.03
PJ → Fair	.21***	.04	.14***	.04	.25***	.03	.24**	.04
DJ → Fair	.41**	.06	.33***	.04	.24**	.04	.38***	.04
Opp → Fair	.14**	.06	.32***	.04	.32***	.04	.24**	.04
Threat → Fair	-.11**	.04	-.03	.03	-.07*	.03	-.03	.03
Eff → Acc	.07*	.03	.05	.03	.09***	.03	.07**	.02
Freed → Acc	-.08**	.03	.04	.03	-.02	.02	-.02	.02
PJ → Acc	.10**	.03	–	–	.07**	.03	.15***	.03
DJ → Acc	–	–	.19***	.04	–	–	–	–
Opp → Acc	.23***	.03	.11**	.04	.22**	.03	.19***	.03
Threat → Acc	-.05	.03	-.19***	.03	-.11***	.02	-.10***	.02
Fair → Acc	.53***	.03	.53***	.03	.53***	.03	.54**	.02
Fit indices								
χ^2	2.88		2.50		0.07		1.32	
RMSEA	.021		.047		.000		.052	
SRMR	.001		.002		.000		.002	
CFI	1.00		.99		1.00		.99	

Note. Eff = Effectiveness; Freed = Limitations on Freedoms; PJ = Procedural Justice; DJ = Distributive Justice; Opp = Opportunity to improve SeS; Threat = Threat to SeS; Fair = Fairness; Acc = Acceptability.
*$p < .05$. **$p < .01$. ***$p < .001$.

Exploring the Common Determinant Shaping Perceived Fairness and Acceptability Across the Four EPPs

Overall, the results provide substantial but not complete support for our general hypothesis. All the independent variables in the model contribute to the perception of fairness and acceptability of the EPPs, except for perceived limitations on freedoms regarding the vehicle restriction and cycle path policies (see Table 1). Furthermore, perceived opportunity to improve SeS appears to be a relatively important and stable determinant

of perceived acceptability for all the EPPs, .29 ≤ β ≤ .40, p < .001 (see Table 6 in the Supplementary Materials).

Moreover, the results support *Hypothesis 1*, which states that the more individuals perceive the presented policy as fair, the more they perceive it as acceptable. Indeed, the relationship between fairness and perceived acceptability is positive and strong for each of the four EPPs: $\beta_{Subsidy}$ = .53, *SE* = .03; β_{Menus} = .53, *SE* = .03; $\beta_{Cycle\ Path}$= .53, *SE* = .03; $\beta_{Restrictions}$ = .54, *SE* = .02, p < .001. Additionally, perceived fairness seems to partially or fully mediate several relationships in our model. For example, in the case of the vegetarian menu policy, the effect of procedural justice on acceptability is fully explained by perceived fairness, β_{Menus} = .08, *SE* = .02, p < .001, whereas for distributive justice, we also observed a direct link with acceptability, β_{Menus} = .19, *SE* = .04, p < .001.

The results also show that, consistent with *Hypothesis 2*, perceived distributive justice strongly determines the extent to which individuals perceive the presented EPP as fair, regardless of the nature of the policy. Thus, for all the EPPs, the more participants believe that the policy adheres to distributive justice principles, the more they perceive it as fair, .27 ≤ β ≤ .46, p < .001 (see Table 1).

When comparing the weight of the factors (i.e., using the Wald test), some differences are worth noting. Regarding the bicycle subsidy and vehicle restriction policies, distributive justice is indeed the most important determinant of perceived fairness, more so than procedural distributive, respectively $\chi^2(1) = 7.57$, p = .006, and $\chi^2(1) = 5.82$, p = .016. However, distributive justice has a weight similar to opportunity to improve SeS for the vegetarian menu policy, $\chi^2(1) = 0.21$, p = .651, and to procedural justice, $\chi^2(1) = 0.21$, p = .995 and opportunity, $\chi^2(1) = 0.58$, p = .445 for the bike lane policy.

Exploring the Determinants Specific to the Nature of Each EPP Shaping Perceived Fairness and Acceptability

The results do not support *Hypothesis 3*. For the least coercive EPP (bicycle subsidy), perceived effectiveness does not emerge as a key explanatory factor of perceived fairness and acceptability. The Wald test indicates that effectiveness is less related to perceived fairness than distributive justice, $\chi^2(1) = 24.19$, p < .001. Furthermore, effectiveness is also less related to acceptability than opportunity to improve SeS, $\chi^2(1) = 7.94$, p = .004, or limitations on freedoms, $\chi^2(1) = 12.27$, p < .001.

The results also do not support *Hypothesis 4a*. Contrary to expectations, limitations on freedoms are not related to the perception of fairness or the acceptability of the most coercive EPP (vehicle restriction policy). Limitations on freedoms seem to determine perceived fairness only in the case of the vegetarian menu policy, β_{Menus} = -.13, *SE* = .03, p < .001, and they appear to be modestly linked to the acceptability of the bicycle subsidy policy, $\beta_{Subsidy}$ = -.08, *SE* = .03, p = .009 (see Table 1).

Finally, *Hypothesis 4b*, which proposed that perceived procedural justice would be a more important determinant of perceived fairness in the context of a coercive EPP, is not

supported. In the case of the vehicle restriction policy, procedural justice has a weight comparable to that of opportunity to improve SeS, $\chi^2(1) = 0.03$, $p = .853$, and a lower weight than distributive justice, $\chi^2(1) = 5.82$, $p = .016$.

Discussion

The aim of this study was to examine the determinants of perceived fairness and, consequently, the acceptability of four local and concrete EPPs implemented in Paris and related to mobility and food. In addition to factors already established in the literature (i.e., effectiveness, freedom, distributive justice, and procedural justice; see Schmöcker et al., 2012), two additional factors were considered: perceived opportunity to improve SeS and perceived threat to the SeS.

In line with the hypotheses, the results show that all the studied factors predict the perception of fairness and the acceptability of the EPPs, although not to the same extent or in the same way. Additionally, consistent with past literature (e.g., Hsieh, 2022), distributive justice is one of the most important elements determining the extent to which individuals perceive the presented EPP as fair, and therefore acceptable. Moreover, contrary to our expectations, the coercive or voluntary nature of the EPP seems to have little impact on the importance individuals place on the various elements when forming a perception of fairness and acceptability. This result could be specific to our study, given the limited number of EPPs examined, which may not have been sufficiently distinct from one another. Furthermore, it appears that the perceived opportunity to improve SSe and perceived distributive justice are of such importance that they outweigh other determinants, regardless of the EPP. Indeed, although procedural justice influences the perception of fairness, its weight is less important than that of distributive justice and is similar to that of opportunity to improve SeS in the case of the most coercive policy (i.e., vehicle restrictions).

Furthermore, contrary to what is suggested by the literature (Hsieh, 2022; Jagers et al., 2018), perceived limitations on freedoms appear to be largely unrelated to the acceptability of the EPPs examined in our study, particularly for the policy restricting polluting vehicles. This difference may stem from our focus on collective rather than individual restrictions on freedoms (Bergquist et al., 2022; Kallbekken & Sælen, 2011). Moreover, this result could also partially be explained by the characteristics of our sample, which is urban and relatively upper-middle class. For example, participants may be less affected by vehicle restrictions (as they can more easily afford a new car or use alternative modes of transportation) and more likely to benefit from bicycle paths (as they already own bicycles). However, the most coercive EPP also seems to be perceived as the most threatening to the SeS, in the sense that it is likely to affect the current functioning and lifestyle of individuals by pushing them to change their transportation

habits. We might then consider that the perception of limitations on freedoms could directly influence the perception of threat to the SeS. Future studies should explore whether limitations on freedoms could be indirectly linked to fairness and acceptability through other perceptions, such as the perception of threat to the SeS.

Finally, the fact that participants in our study seem to place little importance on the effectiveness of EPPs could be explained by the introduction of a new variable into our model: the opportunity to improve SeS. Covering both socioeconomic and environmental issues, this variable might have overshadowed the effect of the effectiveness variable. Indeed, effectiveness specifically refers to the ability of the policy to address environmental issues. On one hand, environmental effectiveness may seem more distant from social concerns, and individuals may place more importance on what directly impacts society, namely social and economic factors. On the other hand, the EPPs presented could also be seen as political measures aimed at addressing other issues beyond environmental problems (e.g., sharing and reducing noise in public spaces, or promoting healthier and more inclusive diets). This is why the perceived opportunity to improve SeS could prove to be an important determinant of the acceptability of EPPs, and therefore a particularly relevant element to investigate. Furthermore, as we hypothesized, it reflects a perception separate from the perception of threat to the SeS, rather than simply being its antagonist.

Our study has several limitations. First, recruitment and questionnaire administration were conducted exclusively online. As a result, we likely did not reach the most disadvantaged populations (Hays et al., 2015), including those without access to digital devices. This limitation is especially significant as low-income and marginalized communities, most affected by EPPs, are often underrepresented in decision-making processes (Newell et al., 2021). It also echoes calls for more intersectional approaches to environmental justice that focus on the emancipation and recognition of marginalized groups (Anguelovski et al., 2020). Future research should address this issue, for example by using mixed recruitment strategies that reach offline populations or by collaborating with local organizations working with low-income and marginalized communities. Furthermore, participants read a concise and therefore necessarily partial presentation of the EPPs' characteristics, so it is possible that participants did not respond with the same level of prior knowledge. It is also important to note that there are multiple ways to conceptualize what constitutes a fair distribution, and these vary depending on the context (de Vries et al., 2024). Our operationalization through the principle of responsibility, capacity, and vulnerability, while an improvement over operationalizations used in past research, may still be overly reductive. Future research could address this by considering alternative distributive principles, for example, those aiming to maximize overall social benefit or a distributive system that would particularly benefit disadvantaged people. Additionally, while single-item measures offer certain advantages (Allen et al., 2022), relying on them to measure certain variables in our model may have constrained the quality of our operationalization, potentially limiting the accuracy with which participants' perceptions were

captured. Finally, data were collected during widespread opposition to a controversial pension reform and declining government legitimacy and public trust (Harris Interactive, 2023), likely affecting perceptions of institutions and public policies (Schmöcker et al., 2012). Economic concerns surrounding the reform may have influenced attitudes toward environmental policies, as perceived economic fragility can reduce belief in environmental issues (Hennes et al., 2016).

Finally, the results are specific to the context of Paris and may not be directly generalisable to other cities or countries. For instance, the longstanding commitment of the municipal government to implementing EPPs (Regional Energy and Climate Agency, 2021) could make the Parisian population perceive such policies as more acceptable, since policies that have already been implemented generally enjoy higher levels of public support (Laurin, 2018). However, the results may be applicable to other urban contexts with similar characteristics, and the study could be extended to other cities, as our measures are sufficiently general to enable comparisons of perceptions of different EPPs across contexts.

By examining perceptions of different policy measures in terms of coercion, this study extends previous research (Poortinga, 2025) and enriches existing models of policy evaluation (Schmöcker et al., 2012). Moreover, the use of a detailed, multidimensional distributive justice scale provides a valuable tool for future studies to assess public perceptions of fairness across different types of EPPs and contexts. This approach can facilitate more nuanced comparisons between policies and improve the understanding of factors driving public support. These scientific insights have practical implications for policy design. Taking into account citizens' perceptions of responsibility, capacity, and vulnerability can help policymakers design EPPs that are perceived as fairer and more acceptable. Ensuring fair procedures throughout policy development and implementation is also important. Furthermore, framing EPPs as opportunities for citizens to improve both current lifestyles and societal functioning may enhance their acceptability.

To conclude, our results provide several important insights. First, using a more precise measure of distributive justice that incorporates responsibility, capacity, and vulnerability (Schuitema et al., 2011), we observe that distributive justice carries greater weight in the evaluation of EPPs than previously reported (e.g., Schmöcker et al., 2012). This highlights the importance of considering the multidimensional nature of distributive justice to understand acceptability of EPPs. Second, citizens' perceptions of procedural justice and of the opportunity to improve the SeS play also a significant role in shaping acceptability. Third, these findings are robust, based on a large and diverse sample of residents affected by concrete and specific EPPs, which enhances the generalisability of our conclusions. Taken together, these findings offer guidance for developing EPPs that are both fair and publicly acceptable.

Funding: The study was carried out as part of a doctoral funding program (Industrial Agreements for Training through Research – CIFRE) established with the City of Paris.

Acknowledgments: The authors would like to thank the members of the City of Paris who participated in the interviews, providing valuable information on the EPP studied. The authors also thank Elisabeth Lehec, Noémie Fompeyrine, and Noam Marseille, who served as scientific advisors within the City of Paris, for their assistance in developing the presentation texts of the EPP and for proofreading the manuscript. They are also grateful to Arnaud Sapin for his assistance with the statistical analysis. The authors would also like to express their sincere gratitude to the anonymous reviewers and the editor for their constructive and insightful comments, which significantly improved the final version of the manuscript.

Competing Interests: The authors have declared that no competing interests exist.

Data Availability: The data that support the findings of this study are not publicly available but are available from the corresponding author upon reasonable request.

Supplementary Materials

The Supplementary Materials contain the following items:

- **The preregistration for the study** (Frémaux Miguel & Bonnot, 2023S)
- **Additional materials** (Frémaux Miguel & Bonnot, 2026S):
  - *Presentation texts of the EPPs* – Texts describing the policies included in the study (bike subsidies, vegetarian menus, cycle paths, vehicle restrictions)
  - *Supplementary tables* – Tables reporting means, standard deviations, correlations, and total effects for all main study variables

Index of Supplementary Materials

Frémaux Miguel, E., & Bonnot, V. (2023S). *PEJA1, Paris, June 2023* [Preregistration; ID #: 136,748]. AsPredicted. https://aspredicted.org/2FB_2YX

Frémaux Miguel, E., & Bonnot, V. (2026S). *Supplementary materials to "Perceptions and acceptability of environmental public policies in Paris: A social justice lens"* [Presentation texts and supplementary tables]. PsychOpen GOLD. https://doi.org/10.23668/psycharchives.22125

References

Adler, N. E., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in

healthy, White women. *Health Psychology, 19*(6), 586–592. https://doi.org/10.1037/0278-6133.19.6.586

Agence Régionale Energie-Climat [Regional Energy and Climate Agency, 2021]. (2021). *Fiche initiative ZEN de l'Institut Paris Région.* https://www.arec-idf.fr/nos-travaux/publications/la-ville-de-paris-et-la-neutralite-carbone/

Aguinis, H., Gottfredson, R. K., & Joo, H. (2013). Best-practice recommendations for defining, identifying, and handling outliers. *Organizational Research Methods, 16*(2), 270–301. https://doi.org/10.1177/1094428112470848

Alaux, C. (2012). Processus de décision et comportements pro-environnementaux: l'impact des politiques publiques environnementales. *Revue française d'administration publique, 144*(4), 1093–1106. https://doi.org/10.3917/rfap.144.1093

Allen, M. S., Iliescu, D., & Greiff, S. (2022). Single item measures in psychological science: A call to action [Editorial]. *European Journal of Psychological Assessment, 38*(1), 1–5. https://doi.org/10.1027/1015-5759/a000699

Anguelovski, I., Brand, A. L., Connolly, J. J. T., Corbera, E., Kotsila, P., Steil, J., Garcia-Lamarca, M., Triguero-Mas, M., Cole, H., Baró, F., Langemeyer, J., Del Pulgar, C. P., Shokry, G., Sekulova, F., & Argüelles Ramos, L. (2020). Expanding the boundaries of justice in urban greening scholarship: Toward an emancipatory, antisubordination, intersectional, and relational approach. *Annals of the American Association of Geographers, 110*(6), 1743–1769. https://doi.org/10.1080/24694452.2020.1740579

Bergquist, M., Nilsson, A., Harring, N., & Jagers, S. C. (2022). Meta-analyses of fifteen determinants of public opinion about climate change taxes and laws. *Nature Climate Change, 12*(3), 235–240. https://doi.org/10.1038/s41558-022-01297-6

Boutaud, A. (2020). *Des inégalités à fleur de peau: Analyse des écarts entre données objectives et subjectives en matière d'inégalité.* Métropole de Lyon, Direction de la Prospective et du Dialogue Public. https://millenaire3.grandlyon.com/dossiers/2020/sentiments-d-injustice/Des-inegalites-a-fleur-de-peau

Boy, D., RCB Conseil, & Agence de l'Environnement et de la Maîtrise de l'Énergie (ADEME). (2022). *Les représentations sociales du changement climatique: 23ème vague du baromètre* [Report]. https://librairie.ademe.fr/changement-climatique/5917-representations-sociales-du-changement-climatique-23-eme-vague-du-barometre.html

Caillaud, S., & Flick, U. (2013). New meanings for old habits? Representations of climate change in France and Germany. *Revue Internationale de Psychologie Sociale, 26*(3), 39–72. https://hal.science/hal-04078492

Castelo, A. F. M., Schäfer, M., & Silva, M. E. (2021). Food practices as part of daily routines: A conceptual framework for analysing networks of practices. *Appetite, 157*, Article 104978. https://doi.org/10.1016/j.appet.2020.104978

Clayton, S. (2018). The role of perceived justice, political ideology, and individual or collective framing in support for environmental policies. *Social Justice Research, 31*(3), 219–237. https://doi.org/10.1007/s11211-018-0303-z

Clayton, S., Kals, E., & Feygina, I. (2016). Justice and environmental sustainability. In C. Sabbagh & M. Schmitt (Eds.), *Handbook of social justice theory and research* (pp. 369–386). Springer New York. https://doi.org/10.1007/978-1-4939-3216-0_20

Cohen, J. (1992). Statistical power analysis. *Current Directions in Psychological Science, 1*(3), 98–101. https://doi.org/10.1111/1467-8721.ep10768783

de Vries, A., Werner, G., Wijlhuizen, E., Toom, V., Bovens, M., & Hulscher, S. (2024). *Justice in climate policy: Distributing climate costs fairly*. Springer Nature. https://doi.org/10.1007/978-3-031-59427-4

Dreyer, S. J., & Walker, I. (2013). Acceptance and support of the Australian carbon policy. *Social Justice Research, 26*(3), 343–362. https://doi.org/10.1007/s11211-013-0191-1

Duran, P. (2018). L'évaluation des politiques publiques: Les sciences sociales comme sciences de gouvernement. *Idées Économiques et Sociales, 193*(3), 6–27. https://doi.org/10.3917/idee.193.0006

Eisinga, R., Grotenhuis, M. T., & Pelzer, B. (2013). The reliability of a two-item scale: Pearson, Cronbach, or Spearman-Brown? *International Journal of Public Health, 58*(4), 637–642. https://doi.org/10.1007/s00038-012-0416-3

Ejelöv, E., & Nilsson, A. (2020). Individual factors influencing acceptability for environmental policies: A review and research agenda. *Sustainability, 12*(6), Article 2404. https://doi.org/10.3390/su12062404

Eriksson, L., Garvill, J., & Nordlund, A. M. (2006). Acceptability of travel demand management measures: The importance of problem awareness, personal norm, freedom, and fairness. *Journal of Environmental Psychology, 26*(1), 15–26. https://doi.org/10.1016/j.jenvp.2006.05.003

Eriksson, L., Garvill, J., & Nordlund, A. M. (2008). Acceptability of single and combined transport policy measures: The importance of environmental and policy specific beliefs. *Transportation Research Part A: Policy and Practice, 42*(8), 1117–1128. https://doi.org/10.1016/j.tra.2008.03.006

Feygina, I., Jost, J. T., & Goldsmith, R. (2010). System justification, the denial of global warming, and the possibility of "system-sanctioned change". *Personality & Social Psychology Bulletin, 36*(3), 326–338. https://doi.org/10.1177/0146167209351435

Goldsmith, R. E., Feygina, I., & Jost, J. T. (2013). The gender gap in environmental attitudes: A system justification perspective. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Research, action, and policy: Addressing the gendered impacts of climate change* (pp. 159–171). Springer. https://doi.org/10.1007/978-94-007-5518-5_12

Grimes, M. (2006). Organizing consent: The role of procedural fairness in political trust and compliance. *European Journal of Political Research, 45*(2), 285–315. https://doi.org/10.1111/j.1475-6765.2006.00299.x

Gross, C. (2007). Community perspectives of wind energy in Australia: The application of a justice and community fairness framework to increase social acceptance. *Energy Policy, 35*(5), 2727–2736. https://doi.org/10.1016/j.enpol.2006.12.013

Guivarch, C., & Taconet, N. (2020). Inégalités mondiales et changement climatique. *Revue de l'OFCE, 165*(1), 35–70. https://doi.org/10.3917/reof.165.0035

Harring, N., & Sohlberg, J. (2017). The varying effects of left–right ideology on support for the environment: Evidence from a Swedish survey experiment. *Environmental Politics, 26*(2), 278–300. https://doi.org/10.1080/09644016.2016.1244965

Harris Interactive. (2023). *Reaction of the French to the use of Article 49.3 by the Prime Minister regarding pension reform.* Harris Interactive. https://harris-interactive.fr/wp-content/uploads/sites/6/2023/03/Rapport-Toluna-Harris-Reforme-des-retraites-Reaction-des-Francais-a-lutilisation-du-49.3-par-la-Premiere-ministre.pdf

Haut Conseil pour le Climat [High Council for Climate]. (2021). *Renforcer l'atténuation, engager l'adaptation* [Annual report]. https://www.hautconseilclimat.fr/publications/rapport-annuel-2021-renforcer-lattenuation-engager-ladaptation

Hays, R. D., Liu, H., & Kapteyn, A. (2015). Use of Internet panels to conduct surveys. *Behavior Research Methods, 47*(3), 685–690. https://doi.org/10.3758/s13428-015-0617-9

Hennes, E. P., Ruisch, B. C., Feygina, I., Monteiro, C. A., & Jost, J. T. (2016). Motivated recall in the service of the economic system: The case of anthropogenic climate change. *Journal of Experimental Psychology: General, 145*(6), 755–771. https://doi.org/10.1037/xge0000148

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Huber, R. A., Wicki, M. L., & Bernauer, T. (2020). Public support for environmental policy depends on beliefs concerning effectiveness, intrusiveness, and fairness. *Environmental Politics, 29*(4), 649–673. https://doi.org/10.1080/09644016.2019.1629171

Hsieh, H.-S. (2022). Road pricing acceptability and persuasive communication effectiveness. *Transport Policy, 125*, 179–191. https://doi.org/10.1016/j.tranpol.2022.05.004

INSEE. (2015, December). *Paris: Inequalities widen between east and west* (Insee Flash Île-de-France No. 7). https://www.insee.fr/fr/statistiques/1285531

Intergovernmental Panel on Climate Change. (2023). *AR6 synthesis report.* https://www.ipcc.ch/report/sixth-assessment-report-cycle/

International Observatory on Climate and Public Opinion. (2022). *Mobilization, concern or indifference: Where are the citizens of 30 countries at with regard to climate change?* https://www.ipsos.com/sites/default/files/ct/news/documents/2022-12/Obs%27COP%202022%20-%20Summary%20Report.pdf

Jagers, S. C., Harring, N., & Matti, S. (2018). Environmental management from left to right – On ideology, policy-specific beliefs, and pro-environmental policy support. *Journal of Environmental Planning and Management, 61*(1), 86–104. https://doi.org/10.1080/09640568.2017.1289902

Jetten, J., Mols, F., & Selvanathan, H. P. (2020). How economic inequality fuels the rise and persistence of the Yellow Vest movement. *Revue Internationale de Psychologie Sociale, 33*(1), Article 2. https://doi.org/10.5334/irsp.356

Jost, J. T., & Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. *Current Directions in Psychological Science, 14*(5), 260–265. https://doi.org/10.1111/j.0963-7214.2005.00377.x

Jost, J. T., & Kay, A. C. (2010). Social justice: History, theory, and research. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (5th ed., Vol. 2, pp. 1122–1165). Wiley. https://doi.org/10.1002/9780470561119.socpsy002030

Kallbekken, S., & Sælen, H. (2011). Public acceptance for environmental taxes: Self-interest, environmental and distributional concerns. *Energy Policy, 39*(5), 2966–2973. https://doi.org/10.1016/j.enpol.2011.03.006

Kim, J., Schmöcker, J.-D., Bergstad, C. J., Fujii, S., & Gärling, T. (2014). The influence of personality on acceptability of sustainable transport policies. *Transportation, 41*(4), 855–872. https://doi.org/10.1007/s11116-013-9502-5

Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). Guilford Publications.

Kwan, J. L. Y., & Chan, W. (2011). Comparing standardized coefficients in structural equation modeling: A model reparameterization approach. *Behavior Research Methods, 43*(3), 730–745. https://doi.org/10.3758/s13428-011-0088-6

Labarre, H., & Felonneau, M. L. (2022). Environmental threat in France: Two studies testing the effect of threatening messages on system justification and environmental denial. *Frontiers in Psychology, 13*, Article 891329. https://doi.org/10.3389/fpsyg.2022.891329

Laurin, K. (2018). Inaugurating rationalization: Three field studies find increased rationalization when anticipated realities become current. *Psychological Science, 29*(4), 483–495. https://doi.org/10.1177/0956797617738814

Lebaron, F., & Blavier, P. (2017). Classes et nations: Quelle articulation à l'échelle européenne? *Actes de la Recherche en Sciences Sociales, 219*(4), 80–97. https://doi.org/10.3917/arss.219.0080

Maestre-Andrés, S., Drews, S., & van den Bergh, J. (2019). Perceived fairness and public acceptability of carbon pricing: A review of the literature. *Climate Policy, 19*(9), 1186–1204. https://doi.org/10.1080/14693062.2019.1639490

Montada, L., & Kals, E. (1995). Perceived justice of ecological policy and proenvironmental commitments. *Social Justice Research, 8*(4), 305–327. https://doi.org/10.1007/BF02334710

Navarro, O. (2022). Partie 1. Enjeux environnementaux et pensée sociale. In O. Navarro (Ed.), *Psychologie environnementale: Enjeux environnementaux, risques et qualité de vie* (pp. 1–22). De Boeck Supérieur. https://www.deboecksuperieur.com/livre/9782807341784-psychologie-environnementale

Newell, P., Srivastava, S., Naess, L. O., Torres Contreras, G. A., & Price, R. (2021). Toward transformative climate justice: An emerging research agenda. *Wiley Interdisciplinary Reviews: Climate Change, 12*(6), Article e733. https://doi.org/10.1002/wcc.733

Opotow, S. (2018). Social justice theory and practice: Fostering inclusion in exclusionary contexts. In S. Opotow (Ed.), *The Oxford handbook of social psychology and social justice* (pp. 41–56). https://doi.org/10.1093/oxfordhb/9780199938735.013.2

Parlons Climat. (2022, June). *Environnement, crise climatique : L'opinion des Français au-delà des clichés*. Les Français parlent du climat. https://lesfrancaisparlentclimat.org/l-etude

Poortinga, W. (2025). The role of policy appraisals and second-order beliefs in public support for climate policies in the UK. *Climate Policy*. Advance online publication. https://doi.org/10.1080/14693062.2025.2539977

Poortinga, W., Spence, A., Demski, C., & Pidgeon, N. F. (2012). Individual-motivational factors in the acceptability of demand-side and supply-side measures to reduce carbon emissions. *Energy Policy, 48*, 812–819. https://doi.org/10.1016/j.enpol.2012.06.029

Rampalli, K. K., Blake, C. E., Frongillo, E. A., & Montoya, J. (2023). Why understanding food choice is crucial to transform food systems for human and planetary health. *BMJ Global Health, 8*(5), Article e010876. https://doi.org/10.1136/bmjgh-2022-010876

Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., Lambin, E. F., Lenton, T. M., Scheffer, M., Folke, C., Schellnhuber, H. J., Nykvist, B., De Wit, C. A., Hughes, T., Van Der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P. K., Costanza, R., Svedin, U., . . . Foley, J. A. (2009). A safe operating space for humanity. *Nature, 461*(7263), 472–475. https://doi.org/10.1038/461472a

Schmöcker, J.-D., Pettersson, P., & Fujii, S. (2012). Comparative analysis of proximal and distal determinants for the acceptance of coercive charging policies in the UK and Japan. *International Journal of Sustainable Transportation, 6*(3), 156–173. https://doi.org/10.1080/15568318.2011.570856

Schuitema, G., Steg, L., & van Kruining, M. (2011). When are transport pricing policies fair and acceptable? *Social Justice Research, 24*(1), 66–84. https://doi.org/10.1007/s11211-011-0124-9

Swim, J. K., & Geiger, N. (2021). Policy attributes, perceived impacts, and climate change policy preferences. *Journal of Environmental Psychology, 77*, Article 101673. https://doi.org/10.1016/j.jenvp.2021.101673

Tyler, T. R. (1994). Governing amid diversity: The effect of fair decision-making procedures on the legitimacy of government. *Law & Society Review, 28*(4), 809–831. https://doi.org/10.2307/3053998

Wan, C., Shen, G. Q., & Choi, S. (2017). A review on political factors influencing public support for urban environmental policy. *Environmental Science & Policy, 75*, 70–80. https://doi.org/10.1016/j.envsci.2017.05.005

Zawadzki, S. J., Vrieling, L., & Van der Werff, E. (2022). What influences public acceptability of sustainable energy policies? The crucial role of funding and who benefits. *Energy Research & Social Science, 87*, Article 102468. https://doi.org/10.1016/j.erss.2021.102468