

# Pluralizing environmental values for urban planning: How to uncover the diversity of imaginaries about socio-natures from Vitoria-Gasteiz (Basque Country, Spain)

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## Abstract

1. Cities have pushed forward re-naturing initiatives in local planning agendas. Discourses and rationales for such interventions tend to follow instrumental framings often narrowed down to the economic, health and ecological benefits of nature's contributions to people (NCP). Yet, diverse urban residents often connect to other socio-nature framings that are associated with a plurality of values held for nature, including relational, intrinsic, and instrumental values.
2. Focusing mostly on urban NCP, we used Q-methodology to explore the perspectives and expressions of urban residents' diversity of values for urban greenery and broader human-nature relationships. We explore the role of both instrumental and relational values, as well as certain potential disvalues of urban NCP. In light of the recent IPBES values assessment (IPBES, 2022) we follow a call for empirical studies and methodologies to explore, elicit and visibilize plural values about nature.
3. We base our study in the Basque city of Vitoria-Gasteiz, Spain (2012 European Green Capital) where we identify four distinct perspectives, all of which relate to a diversity of values about urban nature. Urban residents mostly perceive positive values for NCP as directly connected to their wellbeing. Yet, NCP that impact social bonds within their social community, expressed for instance through community-related values, are perceived differently across the four perspectives.
4. We conclude that planners and decision-makers should pay scrutiny to include the four, partly differing, perspectives about the plural values of (urban) NCP in policymaking processes to assure just and inclusive outcomes. Here, intersectional and participatory approaches are needed beyond dominating framings of NCPs and related values, especially those that can take into account the needs and preferences of marginalized social groups. Special emphasis should be put

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on integrating relational values as nourishing such values through planning can play an important role in creating place-rooted connections with local urban landscapes and the community.

#### KEYWORDS

inclusive greening, plural values about nature, Q-method, relational values, socio-natures, urban environmental planning, Vitoria-Gasteiz

## 1 | INTRODUCTION

As cities are facing a socio-environmental crisis, urban greening interventions (UGI) are increasingly presented in urban planning theory and practice as win-win solutions to multiple challenges affecting human well-being (Melanidis & Hagerman, 2022). With mainstreaming of UGI in day-to-day planning practice, nature has turned into a core element of a contemporary green planning orthodoxy (Connolly, 2019). Thereby, UGI are dominantly presented through their multifunctionality and the multiple social, economic and environmental benefits they add to urban habitats (Angelo, 2019a; Pineda-Pinto et al., 2022).

Despite the diverse benefits of UGI, their framings and justifications in policy-making processes often follow a universally applied yet simplified definition of nature's contributions that in reality support a process of commodification of urban greening (Anguelovski & Corbera, 2022; García-Lamarca, Anguelovski, & Venner, 2022; Neidig et al., 2022). UGI are increasingly presented as part of a universal social imaginary portraying urban nature as a hegemonic "one-size-fits-all" approach with purely positive impacts across diverse geographical, cultural and economic urban contexts (Angelo, 2019b; Tozer et al., 2020; Wachsmuth & Angelo, 2018). The potential benefits of UGI thereby tend to be narrowed down to their (often market related) instrumental contributions to people, including the increased competitiveness of cities by improving their air, water and soil quality (Baró et al., 2019; Haase et al., 2014); fostering a growing tourism and real estate sector (García-Lamarca, Anguelovski, Cole, et al., 2022); or their impact on mental and physical health while reducing healthcare expenditures (Berdejo-Espinola et al., 2021; Capaldi et al., 2015; Labib et al., 2022).

Yet, focusing on nature's utility to humans expressed through only instrumental framings reduces the more complex society-nature relationships, including those in cities, to unidirectional and uniform relations (Muradian & Pascual, 2018). Recent discourses and imaginaries around nature's integration into urban environments show a tendency to become co-opted by a neoliberal rationale (Anguelovski & Corbera, 2022; Kotsila et al., 2021; Tozer et al., 2020; Tzoulas et al., 2021). For instance, critical research on the concepts of ecosystem services and nature-based solutions, both widely permeated urban planning theory and practice, exhibits the often market-driven logic for implementing UGI (see e.g. Babí Almenar et al., 2021; Chan et al., 2012; Kiss et al., 2021; Langemeyer & Connolly, 2020). These narrow instrumental framings of urban

nature's benefits may hence accelerate an increasing rift between the often antagonistically portrayed concepts of *society* and *nature* (Gandy, 2018) and more concretely to an amplification of the city-nature binary (Angelo, 2017).

To overcome this conceptional antagonism of *society* and *nature*, in his seminal essay "The city as a hybrid", Swyngedouw (1996) proposed the concept of "socio-natures" to shift urban theory towards acknowledging cities as socio-ecological systems. He described the chaotic entanglements of *society* and *nature*, wherein (humans' relationships with and valuations of) nature is the outcome of social practices and processes. He writes:

Social relations operate in and through metabolizing the "natural" environment through which both society and nature are transformed, changed, or altered and new socio-natural forms are produced. While nature provides the foundation, the dynamics of social relations produce nature's and society's history.

(ibid, p. 68)

Since then, there are increasingly calls for including more-than-human thinking in urban planning theory and practice to move beyond the intellectual divide of society and nature (Armstrong et al., 2022; Maller, 2021; Pineda-Pinto et al., 2022). For instance, Hinchliffe and Whatmore (2006) argued for shifting conceptualizations of the city that depict (human-)built environments as opposite to the "wild", "country", "non-human" (ibid, p. 124) towards visions of living cities. Human and non-human elements are thus convivial, co-existing, and co-dependent in diverse kinds of socio-natures. Houston et al. (2018) and Wiesel et al. (2020) go even further in advocating for a post-human planning theory and practice. Here, more-than-human thinking should be a core component of designing and building cities prioritizing intimate society-nature relationships and practices of responsibility and care for nature.

Using these calls for alternative imaginaries about urban socio-natures as our starting point, our objective here is to explore different imaginaries and perspectives surrounding nature hold by urban residents. We show different forms of socio-natures in the case study of the city of Vitoria-Gasteiz, the 2012 European Green Capital located in the Basque Country, Spain. We hereby draw on a framework of plural values about nature that integrates the concept of relational values and hence supports conceptualizing nature's added value to urban areas beyond instrumental and positive framings of nature's benefits (IPBES, 2022).

## 1.1 | The notion of relational values for urban planning

As a core component of the Values Assessment Report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES, 2022), the notion of relational values has gained prominence recently. It helps expand the understanding of nature's benefits by means of the more encompassing concept of nature's contributions to people (NCP; Díaz et al., 2018; Pascual et al., 2017); that is, a more nuanced description of society-nature-relationships, including multiple positive and negative values of nature affecting humans' quality of life (Díaz et al., 2018; Kadykalo et al., 2019; Lliso et al., 2022; Pascual et al., 2017).

So far, in western cultures values of nature have traditionally been conceptualized dichotomously: as being either instrumental or intrinsic. Instrumental values typically emphasize nature's social and economic value through an anthropocentric lens, prioritizing ideas such as natural capital and ecosystem services with specific NCP being largely or partially substitutable (Deplazes-Zemp & Chapman, 2021; Himes & Muraca, 2018; Tadaki et al., 2017). By contrast, intrinsic values derive from bio-centric worldviews and generally refer to the inherent worth of nature for its own sake (Deplazes-Zemp & Chapman, 2021; O'Connor & Kenter, 2019; Piccolo, 2017). They thus express the notion that nature has rights to exist and thrive irrespective of whether it is (instrumentally) useful to humans; its protection is associated with moral obligations. These values can be found in early nature conservation thinking, such as Arne Naess' deep ecology (Naess, 2008). However, intrinsic values are receiving relatively little attention in today's environmental (human-centred) policies given their as abstract and philosophical perceived conceptualization of nature (O'Connor & Kenter, 2019).

Relational values count as a pragmatic approach to overcome the instrumental-relational values dichotomy and its critique of being an oversimplification of complex symbiotic multidirectional relationships between society and nature (Britto dos Santos & Gould, 2018; Kleespies & Dierkes, 2020; Pineda-Pinto et al., 2022). They concern notions of a good life, that is *eudemonia*, and more concretely refer to "preferences, principles, and virtues associated with relationships, both interpersonal and as articulated by policies and social norms." (Chan et al., 2016, p. 1462). Relational values offer different ontological and counter-hegemonic ways to describe *meaningful* society-nature relationships (IPBES, 2022; Jacobs et al., 2020) articulated both collectively and individually through for example, notions of care, justice, kinship, sense of place, reciprocity or individual and collective identity (Calcagni et al., 2019; Chan et al., 2018; Himes & Muraca, 2018). Firmly linked to local landscapes (Stenseke, 2018) and local knowledge systems (Díaz et al., 2018), they help strengthening a sense of place and belonging to the local community and natural environments, thus creating multiple forms of socio-natures.

## 1.2 | Just positive (urban) socio-natures?

The consideration of value plurality, specifically through integrating relational values, bears a lot of potential for achieving more equitable urban planning processes. Yet, current dominant framings of nature's values as universally positive held by urban planners may risk undermining the possible negative impacts of UGI, specifically on marginalized and vulnerable communities (Birch et al., 2020; Rishbeth & Birch, 2020) or the conflicting perceptions residents might express about nature. A growing body of literature in critical urban planning research shows how certain UGI contribute to increasing social inequality and socio-cultural exclusion, exemplified for instance through green gentrification and displacement of vulnerable groups (Anguelovski et al., 2022; Gould & Lewis, 2017; Rigolon & Németh, 2019). That is, despite the tendency to depict nature's contributions as merely beneficial to humans (Hoelle et al., 2022), urban re-naturing programs may not always be welcomed positively.

A more holistic view on urban nature must also consider its "dis-values" (Lliso et al., 2022) or "trade-offs" (Haase et al., 2017). For example, UGI may translate into displacement because of rising property prices, real estate speculation and tourism-centred developments (García-Lamarca, Anguelovski, Cole, et al., 2022; García-Lamarca, Anguelovski, & Venner, 2022). This in turn typically results in both an economic loss, that is, instrumental disvalue, for those being priced-out of their neighbourhoods and a diminishing sense of community and loss of place-specific culture and local traditions, that is, relational disvalues (Lliso et al., 2022). It is therefore essential to not only consider positive but also potential negative values in planning processes for new nature-centred programs to better capture the complex scope of urban society-nature relationships.

Plural values approaches can serve as a "technology of participation" (Tadaki et al., 2017) when planning UGI. If correctly implemented, they may leverage urban planning processes towards achieving equity and inclusivity by acknowledging, eliciting, and including throughout the different planning phases a diversity of, sometimes diverging, values about nature held by multiple stakeholders (Mansur et al., 2022). Carefully implemented plural valuation approaches can also shed light on power dynamics that underpin socio-environmental conflicts as they allow for decolonized interpretations of NCP based on different worldviews and knowledge systems (Díaz et al., 2018; IPBES, 2022; Jacobs et al., 2020; Tozer et al., 2020). For example, UGI have been shown to accelerate or produce environmental injustices in material practices and immaterial discourses around greening through the exclusion of marginalized voices (with their own associated values and needs; Anguelovski et al., 2020; Kabisch & Haase, 2014; Pérez del Pulgar et al., 2020; Triguero-Mas et al., 2021). In contrast, a decolonized reading of NCP opens space for a careful consideration of those often-overlooked values that may be affected by UGI (Anguelovski et al., 2020; Langemeyer & Connolly, 2020; Tozer et al., 2020).

### 1.3 | The aim of the study

Since the call to shift towards pluralizing valuations of nature is still recent (IPBES, 2022), empirical studies offering methodological tools to explore plural values, specifically in urban areas, are relatively few (Termansen et al., 2022). We draw on empirical data from our case study of Vitoria-Gasteiz, a former European Green Capital, which has been praised for the ambition of its greening mission and projects (Neidig et al., 2022), with a twofold objective: first, to elicit plural and context-specific values about nature held by urban residents in the case study context using a Q-methodology approach. Second, to inform decision-making and implementation of UGI, drawing on a place-specific understanding of nature's values and recognizing the diversity of urban dwellers' perspectives about UGI. We therefore ask: (a) What are the plural values (instrumental, intrinsic or relational) urban residents hold in regard to urban greenery and the broader idea of nature? (b) Do urban NCP tend to be perceived as a positive impact on well-being or may aspects of nature also be negatively valued by urban residents? and (c) How do plural, partly diverging, values about nature impact urban policymaking processes?

In the following, we introduce the context of our case city Vitoria-Gasteiz. We then turn to a detailed description of the Q-methodological approach used to identify collective patterns of how urban residents respond to, rank and/or compare a mixture of relational, instrumental, and intrinsic values about urban greening. This will be followed by the description of the results, focusing on four elicited, distinct, perspectives on the values of nature we found in the urban context of Vitoria-Gasteiz, and on additional qualitative findings. Lastly, we discuss the implications of the findings for planning UGI more generally.

## 2 | CONTEXTUALIZING VITORIA-GASTEIZ' URBAN TRAJECTORY AND GREENING AMBITIONS

We base our study in Vitoria-Gasteiz, Basque Country, Spain, a 250.000 resident mid-sized city that grew rapidly during the industrialization period from the 1950s to 1970s with a fivefold increase of the population (from 40.000 to 190.000 residents), attracting people from rural and deprived areas of Spain. In Vitoria-Gasteiz, this shifted the urban identity and workforce from the agricultural sector with strong connections to local landscapes to an industrial production centred around the automotive sector (González de Langarica Mendizábal, 2007; Pérez-Álvarez, 2020). As of 2021, only around half of the city's residents were born in Vitoria-Gasteiz with an additional 11% born in the Basque Country, while 23% came from the rest of Spain and 14% immigrated from other countries (most of whom from Colombia, Morocco, and Algeria; Ayuntamiento de Vitoria-Gasteiz, 2021).

Through the 2010s, Vitoria-Gasteiz has received broad international recognition for its long-term political commitment to

greening and sustainability and has, inter alia, been awarded as the 2012 European Green Capital and the 2019 UNESCO Global Green City for its urban greening efforts. The city's green transformation started in the early 1990s with an ecological and social rationale to redevelop contaminated brownfields to recreational green amenities. As global narratives of green policies changed over time, environmental projects became the embodiment of depoliticized discourses dominated by ecomodernist and economist framings (Neidig et al., 2022).

In terms of its natural environment, the city counts on diverse types of urban and peri-urban landscapes ranging from green corridors, parks, gardens, wetlands, riversides, to forests. These spaces are connected through a holistic green infrastructure network mostly known for its emblematic peri-urban 35 km Green Belt (Aznarez et al., 2022). This belt sets a spatial limit to prevent further urban and industrial expansion and separates the city from its surrounding agricultural land (40% of the municipality's surface). In addition, two mountain ranges in the west and south of the city, zones of special environmental protections, make up another 40% of the city-owned land (Orive & Dios Lema, 2012; Figure 1).

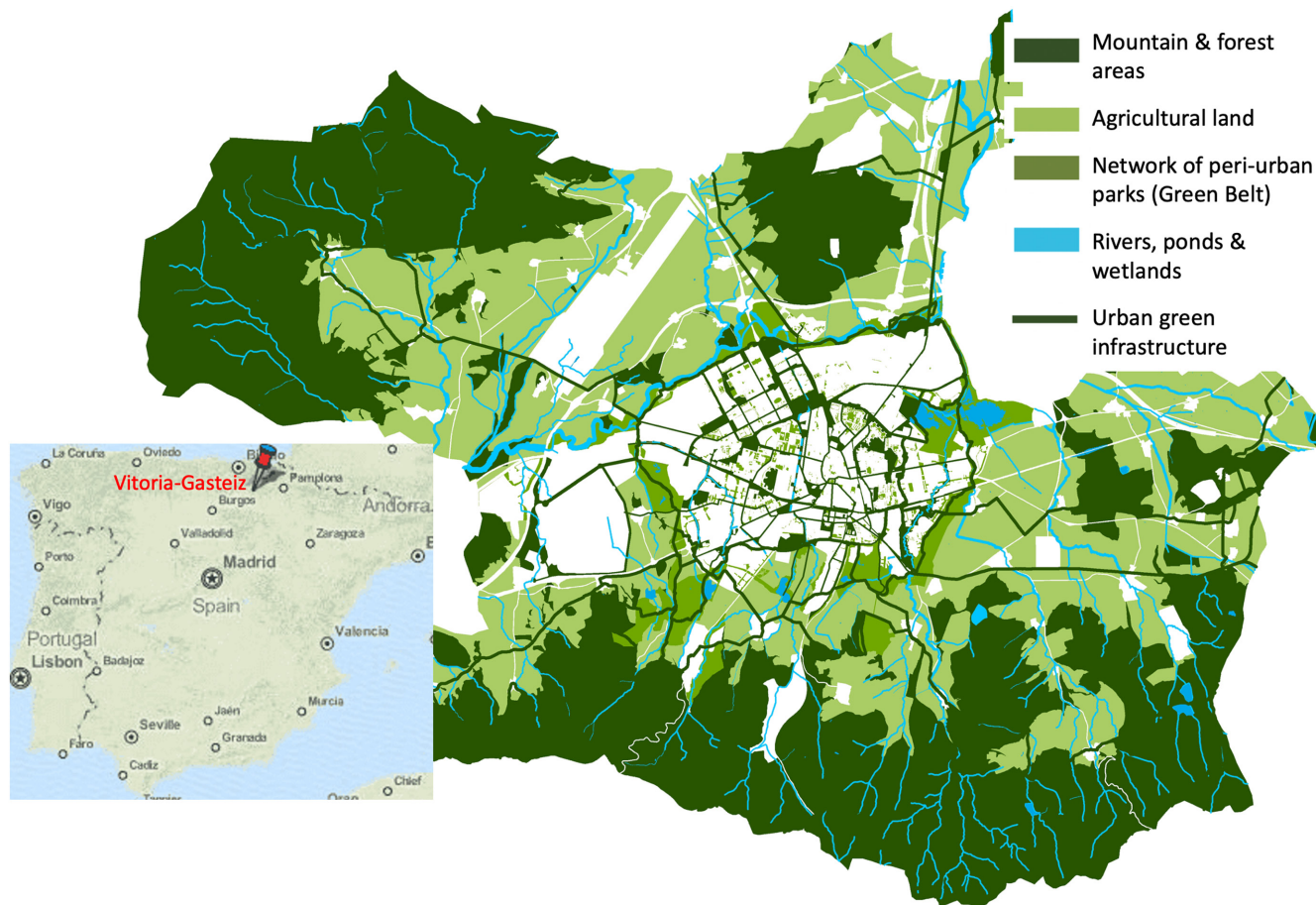
In sum, the city's urban development history, including the long-term green and sustainability trajectory with shifting rationales for greening, and the access to diverse types of urban and peri-urban natural landscapes make Vitoria-Gasteiz an emblematic case to study diverse types of plural values about nature and its different embodiments in the city.

## 3 | METHODOLOGY: Q-METHOD

We used Q-method, a semi-quantitative methodological approach to investigate a diversity of perspectives on specific, often conflicted, topics (Sneegas et al., 2021). Originating from psychology, Q-method has been used to shed light on opinions and perspectives by experts and policymakers or lay people around a specific environmental topic that then can be integrated in the policy design and implementation (Barry & Proops, 1999; Watts & Stenner, 2012; Zabala et al., 2018). The strength of this approach lies in clustering individual responses and opinions into social discourses, that is, understand time- and context-specific patterns in the way people relate to the discussed research question by examining nuanced differences and communalities between perspectives on the conflicted discourse (Maniatakou et al., 2020). Unlike other quantitative (positivist) methodologies, Q-method follows an explicit normative approach (Nielsen et al., 2019), as the researcher is urged to take an interpretative and reflective role at every step of the iterative phases of research design, data collection and data analysis (Zabala et al., 2018).<sup>1</sup>

Until now, only few studies used Q-method to elicit local plural values about nature through statement- or image-based valuations building upon the categorization of NCP through instrumental, relational and intrinsic values (IPBES, 2022). For example, Maniatakou et al. (2020) studied the perceived importance of wetland-based





**FIGURE 1** Map of urban, peri-urban and rural green infrastructure network of the municipality of Vitoria-Gasteiz. *Source:* Centro de Estudios Ambientales de Vitoria-Gasteiz, 2023.

ecosystem services through these three different value dimensions; Inglis and Pascual (2021) focused on the role of languages in the valuation of forest benefits, including a series of relational values linked to Euskara (Basque language) and relationships to forests in the Basque Country; and Holmes et al. (2022) used image-based Q methodology to better grasp contested relational discourses around rural landscape changes.

In the following, we describe in greater detail the research design based on the Q-method, particularly the creation of the Q-concourse and the Q-set and the selection of participants. We then turn to a description of the data collection and analysis (for a summary for the research process, see Figure 2).

### 3.1 | Research design

#### 3.1.1 | The Q-concourse

The Q-concourse describes the set of statements that convey the full scope of perspectives about the research topic in the study context (Robbins & Krueger, 2000). In this paper, it describes the diversity of perceptions and values about (urban) NCP in the cultural, linguistic and place-specific context of Vitoria-Gasteiz.

For this end, we consulted diverse types of statement sources, that is, eight structured interviews with residents, posts on social media, local media articles and previous scientific studies. This was further complemented by statements purposively created by the authors referring to themes not covered by any of the above statement sources (for a detailed description of each of these statement sources, consult Table 1). From these sources, we retrieved the Q-concourse used in this study, a total of 284 statements that described the different perspectives and values associated with NCP, referring to both urban greenery, either with links to specific places in Vitoria-Gasteiz or with emphasis on urban-specific NCP, and to nature as a broader socially constructed concept.

#### 3.1.2 | The Q-set

From the Q-concourse we selected a representative sample of statements, the so-called Q-set, that was then used during the ranking of statements, that is the Q-sort (see Section 3.2). The selection process of those representative statements consisted of an iterative coding process where each statement of the Q-concourse was labelled as either associated with relational, instrumental, and intrinsic

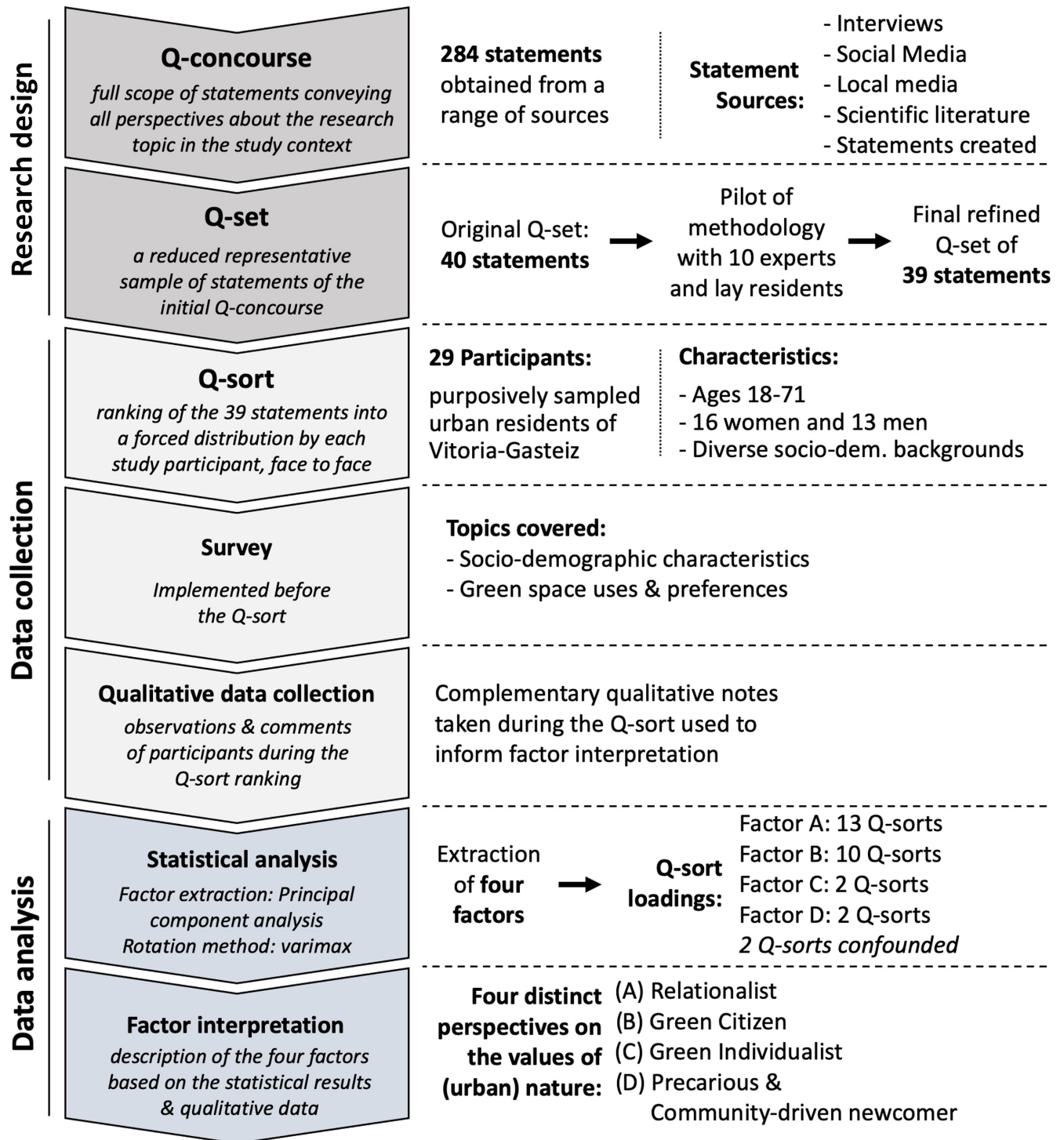


FIGURE 2 Synthesis of the research process, including research design, data collection and data analysis using Q-methodology.

values, or broader human-nature relational models (as in Muradian & Pascual, 2018). Next, each statement received a tag that expressed an associated notion of nature's value, related to for example health, sense of community, care, fear of nature, economic benefits, boredom or detachment. Throughout six iterative rounds of coding, we reduced the Q-concourse to a Q-set of 40 statements representing the heterogeneity of perspectives about values of nature in the study context (Sneegas, 2020).

After a pilot study with 10 experts and lay residents from Vitoria-Gasteiz to test the statements for clarity and comprehensibility, we reduced the final Q-set to 39 statements that expressed a diverse and nuanced notion of the plural values of urban nature applicable in the context of Vitoria-Gasteiz (for the full list of statements, see Table 2).

Of this final Q-set, a relatively large number of statements (#1–#13) express positive notions of nature's relational values. These

TABLE 1 Types of statement sources consulted for creating the Q-concourse of 284 statements.

Types of statement sources for the Q-concourse	Rationale (objectives) of using different sources of the statements
Interviews with residents	To include statements that express individual values about nature prevalent in the case-study context: We conducted eight structured interviews in November 2020 of 45–60 min in Spanish around individuals' understandings of the term 'nature' and related associations. These included questions about uses of urban greenery, the perceived impacts on physical and mental well-being, and practices of care with nature. Interviewees were purposively selected through snowball sampling and resided in Vitoria-Gasteiz for at least 1 year with different socio-demographic backgrounds (i.e. age, gender and place of origin)
Social media posts	To include statements that express individual values about nature prevalent in the case-study context: We searched for posts on the social media platforms Twitter and Instagram that were posted under the hashtags "Green Belt", "Nature", "Vitoria-Gasteiz" and "Green Capital" combined with geotags of specific urban parks in Vitoria-Gasteiz (e.g. "Olarizu", "Armentia", or "Salburua")
Local media articles	To include statements that expressed the local public discourses about nature: We reviewed articles from local newspapers and local online media outlets. These were, for example, articles referring to specific parks or urban green initiatives, to the importance of public green spaces especially during the COVID-19 pandemic, or articles that dealt with broader environmental topics
Previous scientific literature	To include statements expressing notions of society-nature relationships building on the state of art of the scientific literature: We reviewed previous empirical statement-based studies, focusing on, for example (cultural) ecosystem services, humans' connection to nature, the new environmental paradigm, and relational and plural values
Statements purposively created	To include statements expressing notions of disvalues about nature, detachment from nature, or urban-specific understandings of nature: We created and added statements that we could not find in any of the above sources yet considered relevant for the guiding research questions

statements refer to NCP expressing a positive relational bond between individuals and nature necessary for a good life, for example, through eudaimonia (#1), care (#4), reciprocity (#5), or harmony (#7) or between humans within their social communities through nature, expressed for instance by their sense of community (#8), collective identity (#9), or care for present (#12) or future (#13) generations.

Statements #14–#20 are associated with relational disvalues (i.e. negative relational values). They refer to a negative relational, often emotional, bond between individuals and nature hindering achieving a "good life", for example, through the dislike of specific features of (urban) nature such as insects, rats or pigeons (#15) or the emotion of fear of nature (#16). They can also describe negative relational bonds between humans within their social communities through nature, such as perceptions of insecurity in parks (#19) or the dislike of having to share urban greenery with people different to oneself (#20).

Other statements (#21–#29) express positive framings of the instrumental value of NCP. Nature is perceived as a means to achieve a higher quality of life. It is not the relationship with nature per se that is valued but nature as the means to deliver tangible benefits for well-being, that is, revenues through green tourism (#21), local food production (#22), a place for recreation (#25 and #29), or access to better air quality (#27).

Statements that reflect instrumental disvalues (#30–#34) describe individuals' preferences or prioritization of other (non-green-based) experiences over experiences in nature or associated with specific NCP. Urban residents may therefore prefer substituting

urban greenery and its related NCPs for, for example, going to the cinema (#34). This may also lead to a preference of fewer public funds for UGI (#31) and instead dedicated to other urban planning priorities, such as housing (#33). The instrumental disvalue may also be reflected in framings that describe a unidirectional negative impact on people's wellbeing, such as negative impacts on recreation of a park perceived dirty and full of mosquitos (#30).

The original Q-concourse showed a dominantly anthropocentric framing of society-nature relationships with only few statements expressing an eco-centric perspective on the values of nature. We therefore included mainly statements referring to relational and instrumental aspects of NCP into the final Q-set; only statement #35 ("I do not think that the main function of nature is to serve for humans.") and #36 ("Animals deserve to have rights of their own.") express some form of intrinsic value of nature held by people.

Lastly, based on the "extinction of experience" hypothesis referring to a lack of direct and meaningful experiences with nature, especially in urban environments, that may lead to an emotional, physical, spiritual or intellectual alienation from nature (Miller, 2005; Soga & Gaston, 2016), the final Q-set also contains statements expressing ideas of human separation from nature. Here, we used Muradian and Pascual's (2018) typology of human-nature relational models, specifically those models relevant in an urban environment furthering anti-environmental behaviour: utilization of nature (#37), domination of nature (#38) and detachment from nature (#39).

Throughout the full set of 39 statements, we paid attention to include both place-based statements, that is, with reference to

TABLE 2 Q-set and statement descriptions.

Statement no.	Statement (English translation)	Statement tag	Place-specific? <sup>a</sup>	Statement source <sup>b</sup>
Positive relationship between individuals and nature (relational value)				
#1	When I connect with the nature of VG I have a sense of tranquility, I am happier. It helps me to live a fulfilled and good life	Eudaimonia	Yes	Interview
#2	The green spaces of Vitoria-Gasteiz (VG), such as the Green Belt, are important for my mental health	Mental health	Yes	Interview
#3	I feel that the nature and landscapes of VG are an important part of my identity, of who I am as a person	Personal identity	Yes	Interview
#4	Caring for nature helps me lead a more fulfilled life	Care	No	Literature
#5	Nature gives me so much more than I can give her. If I treat her well, she returns it to me	Reciprocity	No	Interview
#6	I think that nature is the origin of humankind, where we came from. Nature is like our big house	Kinship	No	Interview
#7	There are places in nature that give me a sensation of harmony	Harmony	No	Interview
Positive relationship between humans within their social communities through nature (relational value)				
#8	The green spaces of VG are contributing to a stronger sense of community	Sense of community	Yes	Local media
#9	Nature is part of our collective identity as the city of VG	Collective identity	Yes	Interview
#10	The parks of VG are places where I can share experiences with people who are very different from me	Community diversity	Yes	Purposively created
#11	If nature is well, we are well too. The health of our community depends on the state of nature	Health of community	No	Interview
#12	We are responsible for the impacts we have on the environment because they can harm other people	Care for present generations	No	Interview
#13	We have an obligation to take care of nature for future generations	Care for future generations	No	Literature
Negative relationship between individuals and nature (relational disvalue)				
#14	Many of us humans are losing our connection with nature	Disconnection	No	Interview
#15	Natural spaces in cities are attracting dirt, insects, rats and pigeons. I do not like that	Dislike of non-human Others	No	Purposively created
#16	There are aspects of nature that scare me	Fear of nature	No	Purposively created
#17	I do not need to spend time in nature to feel good	Anti-eudaimonia	No	Purposively created
Negative relational bond between humans within their social communities through nature (relational disvalue)				
#18	Now that the green spaces in VG are more crowded because of the pandemic, you have to go further away to be alone. This is not good	Lack of solitude	Yes	Interview
#19	At night I do not usually walk in the parks of VG. I try to avoid them because I do not feel very safe	Perceived insecurity	Yes	Interview
#20	I do not go to some parks in VG because they are usually full of people I do not like	Dislike of human Others	Yes	Interview

(Continues)



TABLE 2 (Continued)

Statement no.	Statement (English translation)	Statement tag	Place-specific? <sup>a</sup>	Statement source <sup>b</sup>
Positive framing of the instrumental value of NCP (instrumental value)				
#21	The Green Belt contributes to generating tourism and economic benefits for the city	Economic benefit (tourism)	Yes	Local media
#22	The neighbourhood gardens and urban agriculture of VG are important places to produce healthy and local food	Natural resources (food)	Yes	Purposively created
#23	The protection of nature in VG is symbolic of the quality of life for the citizens of this city	Quality of life	Yes	Social media
#24	The urban and peri-urban parks of VG are contributing to a healthy environment. They have a positive impact on our physical health	Physical health	Yes	Interview
#25	The parks of VG are spaces where I can go for a run, take the bike, or skate. They make me feel very active	Recreation (physical)	Yes	Literature
#26	Protecting nature will help us prevent future economic crises caused by species loss and climate change	Economic benefit (health)	No	Local media
#27	Nature makes a significant contribution to improving air quality	Natural resources (air)	No	Local media
#28	Protecting nature will help us reduce the risk of new pandemics and other public health emergencies	Public health	No	Local media
#29	I like natural spaces to relax. They are spaces where I can spend many hours	Recreation (mental)	No	Purposively created
Negative framing of instrumental values of NCP (instrumental disvalue)				
#30	I do not like the Green Belt because I think its parks are dirty and full of mosquitos	Unpleasant nature	Yes	Interview
#31	I think VG spends too much public money on nature conservation programs	Wasted expenses	Yes	Literature
#32	I think the parks in the city and its surroundings are very boring. They do not have much value for me	Boredom	Yes	Interview
#33	I think that parts of the Green Belt should be used to build new cheap housing for the residents of VG	Trade-offs	Yes	Purposively created
#34	I usually prefer to watch a movie with a good friend than take a walk in nature with that same friend	Disinterest	No	Purposively created
Intrinsic value of nature				
#35	I do not think that the main function of nature is to „serve for humans“.	Intrinsic worth	No	Interview
#36	Animals deserve to have rights of their own	Intrinsic rights	No	Literature
Human-nature relational models				
#37	It's okay if we lose forests and wetlands, as long as we keep enough for humans	Utilization	No	Literature
#38	We human beings have the right to use nature the way we want	Domination	No	Literature
#39	I prefer living in an urban environment to a rural environment	Detachment	No	Purposively created

Note: The original statements in Spanish can be found in the Appendix (Table A1).

<sup>a</sup>Place-specific? Yes: statements refer to aspects of urban nature specific to Vitoria-Gasteiz. No: statements express notions of nature as a social or biophysical entity beyond urban boundaries.

<sup>b</sup>Statement source: indicates the source the statements were retrieved from, that is, interviews, social media, local media, (previous scientific) literature, (statements) purposively created (for description of each statement source, see Table 1).

city-wide or specific UGI of Vitoria-Gasteiz and statements referring to nature beyond urban boundaries. For example, while statement #4 links to the value of collective urban identity through the city's urban parks, statement #12 refers to nature beyond the specific urban context as a broader socially constructed concept.

### 3.1.3 | Participants

The Q-method is designed to capture the broadest range of perspectives on the studied topic, unlike quantitative (survey) designs that aim to be representative of the study population. Hence, securing heterogeneity of respondents is key and allows for using relatively small sample sizes by carefully selecting respondents with the rule of thumb of having a lower number of participants than statements (Watts & Stenner, 2012). We aimed to explore urban residents' patterns of valuing nature and strategically selected the study participants with diverse socio-demographic and cultural backgrounds and without a-priori expectation that participants would have any specific knowledge on environmental issues or urban challenges connected to Vitoria-Gasteiz. A snowball sampling technique was used to recruit participants, we further approached people in public parks and neighbourhood centres. This helped control for gender representation, diverse age groups and to assure a fair representation of residents' diverse places of origin.

In total 29 urban residents, 16 women and 13 men, were interviewed, ranging from 18 to 71 years old. Nine persons were born in

Vitoria-Gasteiz, 13 came from other parts of Spain, three respondents were from Colombia, and one from Argentina, Senegal, China and Morocco. We selected participants who had been residing in Vitoria-Gasteiz for at least 1 year in order to secure they could have developed some sense of place for different (peri-) urban green spaces and some level of belonging based on city identity. Four of the 29 participants had been interviewed previously during the creation of the Q-concourse (see Table 1 "Interviews with residents").

### 3.2 | Data collection

The data collection was completed face-to-face between November 2021 and June 2022 and has been approved by the Basque Centre for Climate Change Advisory Board and Ethics Committee. Each respondent was interviewed individually in a green space, in a neighbourhood centre or public space of their choice. Each interview lasted between 30 and 60 min.

Data collection started with an introduction of the study and the signing of the Informed Consent. Then, study participants responded to a survey about socio-demographic characteristics and their preferences and uses of green spaces in the city. This was followed by the Q-sort—the process in which respondents were asked to rank the 39 statements into a forced distribution from most disagree to most agree according to their own perspectives (Figure 3). Place-specific statements were printed on yellow cards, place-detached

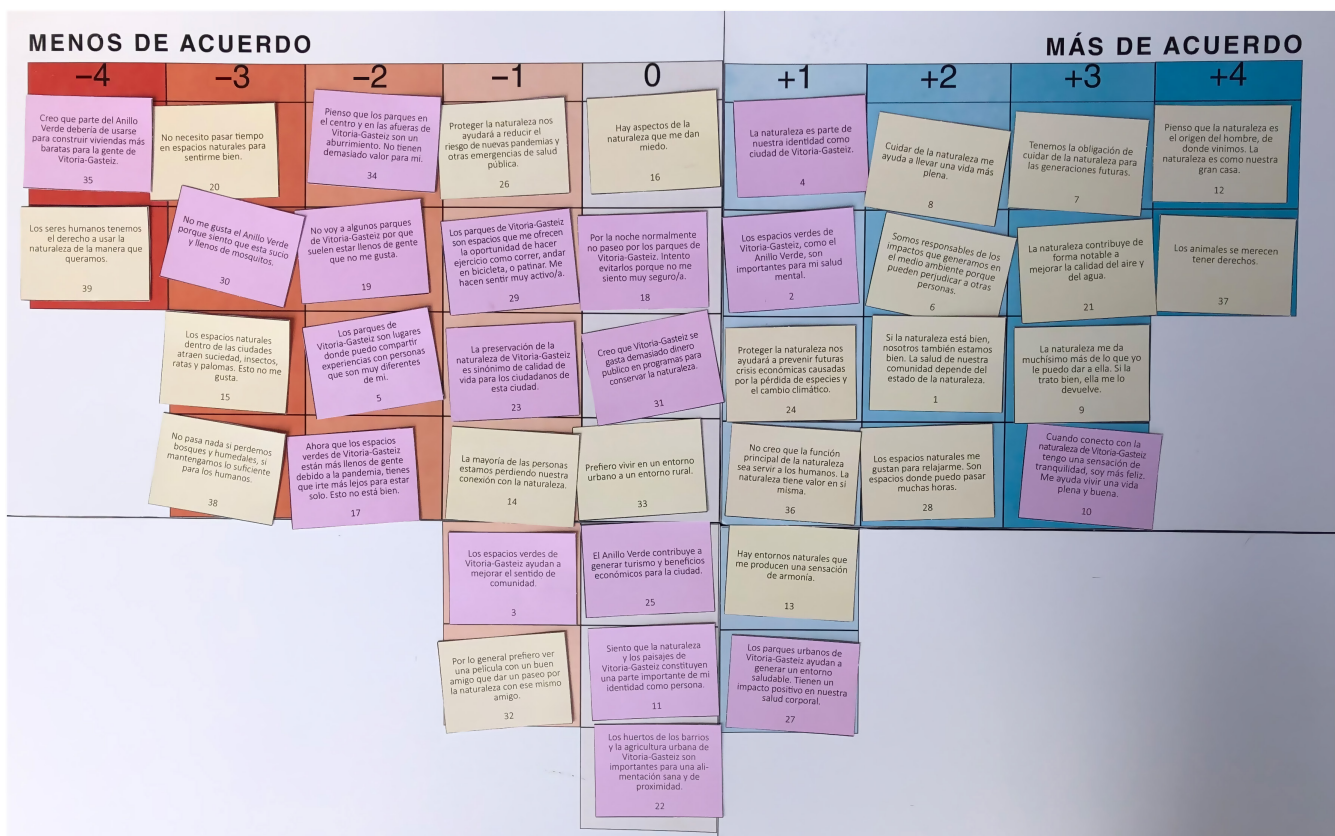


FIGURE 3 Q-sort and sorting scheme (example photo from fieldwork, March 2022).

statements on purple cards (see Table 2, "Place-specific?"). We asked the participants to sort the statements into three piles: statements they agreed with, statements they disagreed with and statements they felt neutral about.

This was followed by each participant ranking the statements according to the given Q-sorting scheme (Figure 3). Starting with the "agree" pile, participants were asked to place the two statements they most strongly agreed with on the "+4"-labelled column on the right. They continued filling up the right-hand side of the Q-sorting scheme with all the "agree" statements moving towards the more neutral centre of the scheme, according to their level of agreement. The same procedure was repeated with the "disagree"-piled statements on the left-hand side of the scheme. Then, the remaining empty fields at the centre were filled with statements initially sorted as "neutral", until all 39 statement cards had been placed on the Q-sorting scheme. Lastly, participants were invited to take a final look and change location of statements if needed. The sorting process was completed with a closing conversation, so participants could explain their choices or raise any doubts on statements they found interesting. Participants' comments on specific statements throughout the sorting process together with remarks from closing conversations were noted down in the researcher's field diary. This process helped to capture qualitative insights on how participants made sense of their Q-sorts in order to complement and enrich the quantitative Q-sort-data.

### 3.3 | Data analysis

Data was analysed with the Q-method-package in the R software (Zabala, 2014), using Pearson coefficient for the initial correlation, principal components analysis and varimax rotation. To decide how many factors to extract, we applied the Kaiser-Guttman Criterion (factor's Eigenvalue >1), the Humphrey Rule (the cross product of the two highest factor loadings exceeds the standard error) and with at least two significantly loading sorts on each factor (Brown, 1980; Watts & Stenner, 2012). Based on these criteria, two to four factors could have been extracted. After considering the qualitative information obtained during data collection, we opted for the four-factor solution.<sup>2</sup> The four factors explained 73.63% of the total variance. Thirteen Q-sorts loaded significantly on Factor A, 10 Q-sorts on Factor B, and two Q-sorts on each Factor C and D. Two Q-sorts loaded significantly on more than one factor. These so-called confounded Q-sorts were excluded from the subsequent analysis (Sneegas et al., 2021).<sup>3</sup>

Each of the four factors represents a distinct perspective on patterns of how residents of Vitoria-Gasteiz relate to and value urban nature. These perspectives also show various commonalities as some statements are considered consensus statements, that is, they have been ranked similarly across all four factors. In interpreting each factor or perspective about the values of urban nature we focused on the distinguishing statements that differentiate one or several perspectives from the other perspectives (Table 3). We further used the additional

data collected during the 29 interviews, that is, survey results and qualitative information, namely participants' comments throughout the Q-sorting process and information derived from the closing conversation, to build rich descriptions of the four identified perspectives.

## 4 | RESULTS: FOUR DISTINCT PERSPECTIVES ON THE VALUES OF (URBAN) NATURE

We identified four different perspectives of valuations of (urban) NCP by urban residents, which we labelled as the *Relationalist* (representing Factor A), the *Green Citizen* (Factor B), the *Green Individualist* (Factor C), and the *Precarious and Community-Driven Newcomer* (Factor D; see Figure 4). Across the four perspectives, there is agreement with positive expressions of nature's values that refer to direct links between NCP and individual well-being, yet the four perspectives can be distinguished by a unique combination of different values that range from more utilitarian and community-detached understandings of nature's benefits to deeper relational bonds with nature and the social community through nature. Before turning to a broader discussion of implications of such a diversity of perspectives for urban planning, we briefly describe each perspective.

### 4.1 | (A) The *Relationalist* perspective

For the *Relationalist*, nature significantly impacts what constitutes their sense of a "good life". They feel deeply connected to a broader, place-detached, notion of nature; thus, values connecting to place-specific NCP or the local community in Vitoria-Gasteiz play a secondary role. Of significance to the *Relationalist* are those statements expressing positive relational values, such as kinship (#6, +4),<sup>4</sup> reciprocity (#5, +4), care for present (#12, +3) and for future generations (#13, +3), and nature's intrinsic worth (#35, +2) and intrinsic rights (#36, +2). As nature is considered an enriching and necessary contribution to people's well-being, the *Relationalist* typically rejects any framing of nature's disvalue that may describe nature as something to be afraid of (#16, -2) or something boring (32, -2). Especially ideas expressing a human domination over nature (#38, -4) and nature's main role to be utilized by humans (#37, -4) face strong disagreement. The *Relationalist's* deep connection with nature also became apparent in the accompanying conversations with respondents loading on this perspective who stressed the importance of engaging in stewardship activities in a community or private garden or going for long walks in nature.

### 4.2 | (B) The *Green Citizen* perspective

The *Green Citizen* values a mixture of instrumental and relational aspects of urban NCP. Of importance in this perspective are especially those relational values that express a relationship within their social communities through nature. Respondents loading onto this

TABLE 3 Statistical results of the Q-sorts.

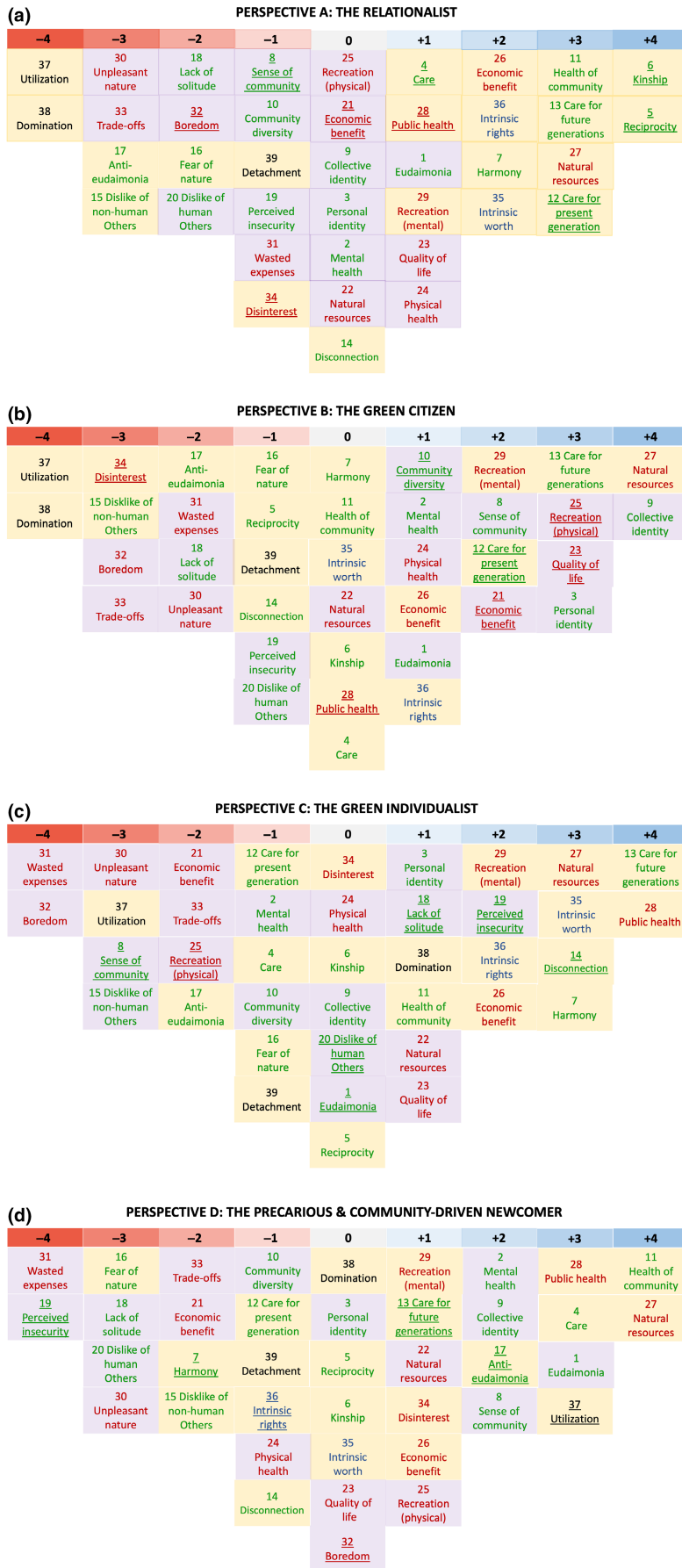
Statement no.	Statement tag	Exact factor scores in Z-score units			
		Factor A	Factor B	Factor C	Factor D
#1	Eudaimonia	0.55	0.53	-0.26 <sup>a</sup>	1.2
#2	Mental health	-0.05	0.65	-0.53	1.08
#3	Personal identity	-0.03	0.99	0.82	0.1
#4	Care	0.69 <sup>a</sup>	0.07	-0.54	1.49 <sup>a</sup>
#5	Reciprocity	1.56 <sup>a</sup>	-0.01	-0.28	0
#6	Kinship	1.68 <sup>a</sup>	0.19	0.01	-0.1
#7	Harmony	1.09	0.46	1.12	-0.79 <sup>a</sup>
#8	Sense of community	-0.29 <sup>a</sup>	0.87	-1.39 <sup>a</sup>	0.6
#9	Collective identity	0.01	1.4	0	1
#10	Community diversity	-0.44	0.68 <sup>a</sup>	-0.56	-0.31
#11	Health of community	1.36	0.3	0.29	1.89
#12	Care for present generations	1.26 <sup>a</sup>	0.8 <sup>a</sup>	-0.3	-0.39
#13	Care for future generations	1.34	1.4	1.97	0.5 <sup>a</sup>
#14	Disconnection	-0.28	-0.61	1.13 <sup>a</sup>	-0.5
#15	Dislike of non-human Others <sup>b</sup>	-1.29	-1.45	-1.41	-1
#16	Fear of nature	-1.08	0	-0.57	-1.39
#17	Anti-eudaimonia	-1.22	-1.05	-1.12	0.89 <sup>a</sup>
#18	Lack of solitude	-0.93	-1.21	0.55 <sup>a</sup>	-1.49
#19	Perceived insecurity	-0.66	-0.77	0.86 <sup>a</sup>	-1.89 <sup>a</sup>
#20	Dislike of human Others	-1.1	-0.96	-0.01 <sup>a</sup>	-1.6
#21	Economic benefit (tourism)	0.19 <sup>a</sup>	0.70 <sup>a</sup>	-0.83	-0.68
#22	Natural resources (food) <sup>b</sup>	-0.1	0.22	0.29	0.5
#23	Quality of life	0.45	1.23 <sup>a</sup>	0.28	-0.19
#24	Physical health	0.41	0.64	0.26	-0.48
#25	Recreation (physical)	0.38	1.25 <sup>a</sup>	-1.11 <sup>a</sup>	0.31
#26	Economic benefit (health)	1.16	0.54	0.83	0.39
#27	Natural resources (air)	1.27	1.81	1.68	1.68
#28	Public health	0.66 <sup>a</sup>	0.16 <sup>a</sup>	1.97	1.6
#29	Recreation (mental) <sup>b</sup>	0.52	0.93	1.12	0.6
#30	Unpleasant nature <sup>b</sup>	-1.12	-1.24	-1.13	-1.6
#31	Wasted expenses	-0.92	-1.13	-1.41	-1.68
#32	Boredom	-1.01 <sup>a</sup>	-1.45	-1.97	-0.21 <sup>a</sup>
#33	Trade-offs	-1.17	-1.47	-0.87	-0.6
#34	Disinterest	-0.93 <sup>a</sup>	-1.39 <sup>a</sup>	0.28	0.48
#35	Intrinsic worth	0.98	0.24	1.39	-0.1
#36	Intrinsic rights	1.14	0.52	0.86	-0.39 <sup>a</sup>
#37	Utilization	-1.77	-1.54	-1.13	1.18 <sup>a</sup>
#38	Domination	-1.78	-1.80	0.3	0.29
#39	Detachment <sup>b</sup>	-0.52	-0.51	0.57	-0.39

<sup>a</sup>Distinguishing statements for each factor.

<sup>b</sup>Consensus statements across all four factors.

perspective expressed a strong sense of place and reflected a discourse of pride attached to the green achievements of “their city” as several respondents explicitly mentioned “the luxury of living in a European Green Capital”, which is considered a core component

of a perceived high quality of life offered by Vitoria-Gasteiz (#23, +3). For the *Green Citizen*, both enjoying the shared experiences with other people different to them (#10, +1) and the core role that the local landscapes play in developing a personal identity (#1, +3)



**FIGURE 4** Factor arrays for each factor A, B, C, and D. The factor array exemplifies for each perspective the “archetypical” Q-sort, that is the sort that would load 100% on the specific factor/ perspective, i.e. (a) shows the archetypical Q-sort for the perspective of the *Relationalist*, (b) the *Green Citizen*, (c) the *Green Individualist*, and (d) the *Precarious and Community-driven Newcomer*. Blue letters indicate intrinsic values, red instrumental values, green relational values, and black broader human-nature relational models. Cards in purple contain place-specific notions, and cards in yellow refer to nature as a broader concept. Statements underlined show the distinguishing statements for each factor.



and collective identity (#9, +4) are key values of urban nature. The *Green Citizen* highly values instrumental NCP such as access to clean air (#27, +4), options for recreation (#25, +3) and various economic benefits due to UGI (#21, +2). They also show a relational sentiment of care for the present (#12, +2) and future generations beyond local urban boundaries (#13, +3); sentiments that become even stronger through rejecting statements describing relational models that emphasize human domination (#38, -4) and utilization (#37, -4) of nature, a commonality they share with the *Relationalist* perspective.

#### 4.3 | (C) The *Green Individualist* perspective

The *Green Individualist* expresses a general positive sentiment towards urban greening but shares a distinct response regarding statements expressing negative relational bonds between humans within their social communities through nature. For example, the perspective is associated with statements referring to negative perceptions of the local community, such as a perceived insecurity during night time (#19, +2), or the dislike of having to share urban nature with other people (#18, +1) and especially with people of diverse socio-demographic backgrounds (#20, 0). Hence, people within this perspective strongly disagree with urban nature contributing to a sense of community (#8, -3). Despite this distinguished response towards understandings of nature as a connector for the local community, the *Green Individualist* values nature as an important contribution to their individual well-being. This is expressed through a mixture of relational and instrumental values, both inside and beyond urban boundaries. The *Green Individualist* for instance appreciates urban greenery (#32, -4) and hence considers it important to allocate public funds for urban nature conservation (#31, -4). That is because nature is perceived as a contribution to human's quality of life through delivering natural resources (#27, +3) or a sense of harmony (#7, +3). Although lacking strong ties to the local community, the *Green Individualist* still cares deeply for nature for the sake of future generations (#13, +4), which also connects to their strong concern about an increasing disconnection of humanity from nature (#14, +3).

#### 4.4 | (D) The *Precarious and Community-Driven Newcomer* perspective

Respondents loading onto the fourth perspective, namely the *Precarious and Community-driven Newcomer's* perspective, tended to find themselves in a socially and economically precarious situation, as they recently immigrated to the city as members of vulnerable communities, waiting for their residence permit being approved. For respondents within this perspective, green parks are helping them to create a sense of belonging, as a space that allows them to forge a collective identity (#9, +2) and develop a sense of community (#8, +2). That is, the *Precarious and Community-Driven Newcomer* highly rejects framings of negative relational bonds within the local

community, such as perceived insecurity through community members (#19, -4), the rejection of (over-)crowded parks (#18, -3), or feeling negatively towards other park users different to them (#20, -3). Contrary to the other three main perspectives, this perspective understands human's connection with nature as less relational, and instead more instrumental and unidirectional. This becomes exemplified through agreement with the statement expressing a utilization of nature mostly for humans' benefit (#37, +3). That is, nature is valued for its instrumental contributions, such as delivering natural resources (#27, +4) and mainly through its positive impacts on public health (#28, +3); less importance is given to the intrinsic value of nature (#36, -1).

#### 4.5 | Commonalities and patterns across the four perspectives

We identified patterns across the four perspectives based on the consensus statements and the additional qualitative data gathered during the Q-sort process. These patterns pinpoint to notions of urban nature having been perceived differently given diverse socio-demographic background, such as differences between gender and places of origin but also show commonalities across all four perspectives, for instance, regarding a general positive reception of NCP concerning direct links between individuals and nature.

First, we noted a clear gendered dimension in how participants responded verbally to statement #19, expressing a perceived insecurity in urban parks during night. Although most male respondents sorted statement #19 at the centre or disagreement side, several of these respondents explicitly mentioned during the sorting of statements that they would feel differently about this statement if they were female. For instance, one male respondent expressed that "while I am not afraid of passing through a park during night, I tell my teenage daughter not to. I tell her always go on the street with lights." Another female respondent noted that "my parents always told me to not spend time in the urban parks when it is dark. This sentence still sticks with me, I avoid them at night."

Second, respondents who immigrated from other countries emphasized the role of urban parks for creating a sense of place and of belonging, and for maintaining relationships with their countries of origin. For example, three male respondents that more recently arrived in the city from Senegal, Morocco and Argentina, shared how the social component of urban parks as meeting places helped them navigate their financial and bureaucratic insecurities, to exchange with peers, and to have a space for recreation accessible to them as members of vulnerable communities in Vitoria-Gasteiz. Similarly, two female respondents from Colombia exemplified how nature can serve as a vehicle to emotionally re-connect with their community in their home country. Here, practices of care for nature through participating in a community garden project helped bringing childhood memories and cultural practices from their country of origin to their new home. Further, the habit of daily visiting a neighbourhood park

turned into a routine of video-calling friends and family at home and maintaining bonds across far-away places.

Third, a closer look at the consensus statements across the four perspectives further shows that respondents dominantly reject negative framings of (urban) NCP emphasizing direct links between individuals and the natural environment. Both statement #15, expressing a general aversion to specific elements of urban nature, such as perceived dirt, insects, rats, and pigeons, and #30 pointing to a dislike of green areas in Vitoria-Gasteiz because of seemingly unpleasant elements of nature are consensus statements across all four perspectives, being scored either  $-2$  or  $-3$ . Statement #16, fear of nature, was consistently mentioned throughout the sorting process and the closing conversations with a sentiment of surprise and laughter. One respondent for instance asked: "Why would I be afraid of nature? Especially here in Vitoria-Gasteiz, where there are neither dangerous animals nor earthquakes?"

## 5 | TOWARDS PLACE- AND COMMUNITY-BASED FRAMINGS OF URBAN NATURE IN PLANNING

The findings of this study show that society-nature relationships of urban residents in Vitoria-Gasteiz can range from a deep relational bond with all living-beings towards more instrumental perceptions of the value of NCPs. The four different perspectives thus illustrate that NCPs are rarely perceived as either purely instrumental or relational, or purely positive or negative contributions, but rather through multidirectional and nuanced tapestry of socio-natural relationships. This complexity of socio-natures hence demands an assessment of values about nature through a cultural lens, that is, what constitutes a positively or negatively perceived NCP is culturally driven, contrary to many perspectives on cultural ecosystem services typically used in the literature (Díaz et al., 2018). We now turn to a discussion of the implications of this plurality of value perspectives for urban planning. We focus here on the, partly conflicting, values and perceptions present in the different forms of urban socio-natures and their need for being explicitly acknowledged in planning responses.

Overall, there is a general rejection of framings that describe direct negative impacts of nature on humans as those NCPs referring to a direct link between humans and nature are received positively across the four perspectives. This may be explained by the study context of the mid-sized city Vitoria-Gasteiz and its green city branding campaigns that regularly remind its residents on the multiple, mostly instrumental, benefits of nature (Neidig et al., 2022). Further, the close proximity to natural landscapes and a holistic network of (peri-) urban green infrastructure enables a relatively easy access across neighbourhoods to different forms of (urban) NCP. In general, Vitoria-Gasteiz exhibits little green gentrification and inequalities, unlike other cities in Spain and beyond (Anguelovski et al., 2022), thus inviting less controversy around the speculative nature of urban greening policies.

Despite this overall positive reception of NCP, each perspective exhibits certain traits that distinguish them from the other perspectives and hence requires distinct responses from planners and decisionmakers. The *Relationalist* perspective is associated with a deep relational bond with nature that is mostly understood as a social or biophysical entity beyond urban boundaries necessary for living a "good life". *Humans and Nature* are two deeply interconnected elements; relational practices, such as spending time in and caring for nature, thus play a core role in the *Relationalists'* identity, well-being and practices in and with nature. This perspective shows similarities with a universal social imaginary depicting nature as an inherently beneficial and providing positive contributions to people in diverse urban contexts (Angelo, 2019a; Hoelle et al., 2022). But this dominantly instrumental framing of nature's benefits of current urban policies does not account for the strong connection the *Relationalists* holds towards nature given their expressions of nature's intrinsic worth and the multiple relational values. Here, municipal discourses and planning surrounding UGI need to more deliberately account for the depth of the *Relationalist's* connection with nature by including values emphasizing the co- and interdependency of humans and nature and supporting civic and stewardship practices that enable this connection.

People within the *Green Citizen* perspective show similarities with the *Relationalist* as they respond to merely positive framings of NCPs. What differentiates them, is their emphasis on place-based connotations of urban nature that becomes explicit through the strong ties to the local community but also through expressing a certain pride of the institutional achievements of their local decisionmakers. Respondents loading on this perspective for instance repeatedly referred to the municipal slogan of "We are the Green Capital" which we identified in a previous study as crucial in institutionally nurturing place-making that then turned into an urban brand (Neidig et al., 2022). We argue that this perspective is mirroring the local prevalent political discourse drawing on dominantly instrumental and a few community-related relational framings of UGI by replicating the official green branding of the city and highlighting their strong connection to local institutional UGI, such as the European Green Capital award. Here, green planners have strong supporters of their green legacy and should continue building on it for funding and deploying future green projects.

Contrary to the *Green Citizen*, the *Green Individualist* perspective indicates a lack of sense of belonging towards the local community through nature. Respondents loading on this perspective expressed a certain mistrust towards other residents and community members, especially strangers and foreigners, which in return may hinder their engagement in local UGI. Urban planners may thus need to further examine the reasons why people within this perspective disconnect from the local community and how different forms of engagement or participation in UGI may help creating new bonds with local people, both long-term residents and newcomers. Here, participatory processes surrounding renaturing-type UGI may be needed to assure a process of trust building between diverse community members. Appealing to those relational values prevalent in the *Green Individualist's* perspective, such as a feeling of sense of harmony in

nature, may be a starting point to create place-specific connections to urban landscapes and the local community.

Out of the four perspectives, only the *Precarious and Community-driven Newcomer* shows a more utilitarian approach to urban greenery that is especially valued for the opportunity of its use as a social meeting and community-building asset. This perspective gives insights into how historically marginalized residents in the city, such as recent immigrants, appreciate urban nature, in particular accessible urban public parks, as a substitute for the lack of other meeting spaces. Urban greenery may hence turn into a vehicle to create a localized sense of place and of belonging to the new community. This perspective mirrors findings from previous studies (see e.g. Birch et al., 2020; Ono et al., 2021; Rishbeth & Birch, 2020) that describe urban nature as important socializing places that can help newcomers and migrants to build a connection and adapt to the new cultural and social context, they find themselves in. Further, as highlighted in prior studies on gardening and collective efficacy (Teig et al., 2009) and gardening and place building (Anguelovski, 2014; Hartwig & Mason, 2016; Truong et al., 2022), urban green spaces offer newcomers and immigrants spaces for practices of care and stewardship, that, while re-connecting to memories to their home country, also help develop and strengthen place-based relational values. In this regard, green planners should keep funding and building greenspaces that can support such social activities in nature and sustain the positive links different groups form with each other and with greenspaces.

We argue that especially the *Green Individualist* and the *Precarious and Community-driven Newcomers'* perspectives about (urban) NCP may require special attention in planning re-naturing initiatives and UGI. The diverse perspectives about community-related values in connection to urban nature suggest that the contribution of UGI to human-human relationships within the local community may be perceived as *disvalues* (Lliso et al., 2022) by some residents—contrary to the inherently beneficial assumptions that permeate dominating political green(ing) discourses (Angelo, 2019a). Urban residents' needs and perceptions thus differ in relation to both the material green space and the intangible relational bonds between culturally diverse residents that may affect members of the community negatively. Formulating a social imaginary of urban nature that can be more inclusive of the multiple (place-specific) forms of urban socio-natures requires urban planners to pay closer attention to why and how those disvalues arise and manifest. We here call for an intersectional planning approach, for example, in the form of carefully implemented participatory processes, that emphasizes these differences based on the multiples identities and bodies that perceive (urban) NCP and their integration through nature within different social communities (Anguelovski et al., 2020). Understanding and embracing residents' plurality in regard to design, maintenance, and use of urban green spaces is therefore key to support residents in safely negotiating and contesting dominant prevalent values associated with UGI.

The *Relationalists'* and *Green Citizens'* perspectives on the value of urban NCPs are more in tune with dominating urban greening discourses as they regard NCP as a purely positive contribution to human well-being. Especially the *Relationalist's* perspective shows a much

more nuanced and localized understanding of (urban) NCP consisting of plural positive values about nature as it could have been found in Vitoria-Gasteiz' early local environmental political discourses in the 1980s/1990s that drew upon an intrinsic ecological conservation rationale. Over time, nature became presented as a win-win strategy for both the environment and the local economy (Temenos & McCann, 2012; While et al., 2004), a framing that mirrors recent international urban discourses around the Green(est) City (Rosol et al., 2017). With that, the social imaginary replicated in Vitoria-Gasteiz' environmental political discourse shifted towards ecomodernist understandings that envision a smart carbon-neutral city and that depicts nature's benefit through a dominantly utilitarian, instrumental framing (Neidig et al., 2022).

Especially since the recent IPBES Values Assessment Report (IPBES, 2022), the conceptualization of plural valuation approaches is gaining visibility in high-level policymaking. Yet so far, only few policy-making processes actually use valuation approaches to consider diverse perceptions of nature in environmental planning (IPBES, 2022). To implement and apply them in local decision-making, an operationalizing of relational values is needed which could serve as a tool to “integrate issues of justice into assessments of multifunctionality” (Pineda-Pinto et al., 2022). This could further steer urban environmental planning towards understanding socio-ecological systems through multiple forms of socio-natures (Swyngedouw, 1996). Our study has drawn on Q-methodology to elicit, formulate, and visibilize the multiplicity of values about nature held by diverse residents which has allowed us to identify diverse socio-nature in the urban context. Q-methodology shows promise as an exploratory approach within a multi-method approach to meaningfully integrate plural values of nature throughout the policy-making process, especially of those urban residents who remain most invisible or excluded in policy and planning. The research design phase, and more specifically conveying the full range of the local discourses, is a rather time-intensive process since the Q-concourse should mirror comprehensive place-specific notions about nature. However, the methodology's main advantages lie, first, in the relatively small sample size needed as it can already allow deriving key insights into the full depths of purposively sampled perspectives present in any given local context, including those often overlooked and marginalized. Second, the Q-sorting process contains a playfulness in its set-up that respondents expressly enjoyed. We consider it a useful first step to define the starting base of a longer iterative and participatory plural valuation approach.

## 6 | CONCLUSION

Our research on eliciting and identifying plural values about nature that urban residents hold towards (urban) NCP in the case context of the mid-sized city Vitoria-Gasteiz showed that people hold diverse, partly contradicting, forms of socio-natures that can be neither reduced to instrumental nor relational framings of NCP. The integration of a plurality of values throughout decision-making processes hence requires a careful examination of prevalent values and specifically those undermined by dominating institutional discourses.

Attention should be paid to understanding whose values are being put forward, what is the underlying rationale for emphasizing specific values over others, and how can those valuation approaches target specifically socially vulnerable groups whose needs and perceptions regarding urban nature may differ from mainstream political framings. Future research will have to dissect how people with differing values contest and negotiate their needs and necessities in a day-to-day basis to be able to better adapt urban planning processes towards their existing and often conflicting identities (Oscilowicz et al., 2023). This will require an intersectional approach to put emphasis on the plurality of needs that differ across intersecting groups, such as women, immigrants, children or elderly residents.

## AUTHOR CONTRIBUTIONS

Julia Neidig, Bosco Lliso and Unai Pascual conceived the ideas and designed methodology; Julia Neidig collected the data; Julia Neidig analysed the data; Julia Neidig wrote the original draft, Julia Neidig, Isabelle Anguelovski, Bosco Lliso and Unai Pascual reviewed and edited the manuscript substantially. All authors contributed critically to the manuscript and gave final approval for publication. Unai Pascual obtained funding to carry out the research.

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## CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in Dryad Digital Repository: <https://doi.org/10.5061/dryad.qnk98sfnj> (Neidig et al., 2023).

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## ENDNOTES

<sup>1</sup> For a detailed description of the different methodological steps of Q-methodology, see for example Watts and Stenner (2012) or McKeown and Thomas (2013).

<sup>2</sup> This is also in line with Watts and Stenner's (2012) rule of thumb of extracting one factor for every six to eight Q-sorts.

<sup>3</sup> Factors loadings of each Q-sort can be found in Table A2. Those loadings express the association of each Q-sort with each of the four extracted factors.

<sup>4</sup> The numbers in the brackets indicate the statement number and the score it would receive in an archetypical Q-sort that would load 100% on the respective perspective. For example, for perspective A, statement #6 received a score of +4. The archetypical types of Q-sorts for each perspective can be found in Figure 4.

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## APPENDIX

TABLE A1 Original statements in Spanish.

Item no.	Original statement in Spanish
<b>Positive relationship between individuals and nature (relational value)</b>	
#1	Cuando conecto con la naturaleza de Vitoria-Gasteiz tengo una sensación de tranquilidad, soy más feliz. Me ayuda vivir una vida plena y buena
#2	Los espacios verdes de Vitoria-Gasteiz, como el Anillo Verde, son importantes para mi salud mental
#3	Siento que la naturaleza y los paisajes de Vitoria-Gasteiz constituyen una parte importante de mi identidad como persona
#4	Cuidar de la naturaleza me ayuda a llevar una vida más plena
#5	La naturaleza me da muchísimo más de lo que yo le puedo dar a ella. Si la trato bien, ella me lo devuelve
#6	Pienso que la naturaleza es el origen del hombre, de donde vinimos. La naturaleza es como nuestra gran casa
#7	Hay entornos naturales que me producen una sensación de armonía
<b>Positive relationship between humans within their social communities through nature (relational value)</b>	
#8	Los espacios verdes de Vitoria-Gasteiz ayudan a mejorar el sentido de comunidad
#9	La naturaleza es parte de nuestra identidad como ciudad de Vitoria-Gasteiz
#10	Los parques de Vitoria-Gasteiz son lugares donde puedo compartir experiencias con personas que son muy diferentes de mi
#11	Si la naturaleza está bien, nosotros también estamos bien. La salud de nuestra comunidad depende del estado de la naturaleza
#12	Somos responsables de los impactos que generamos en el medio ambiente porque pueden perjudicar a otras personas
#13	Tenemos la obligación de cuidar de la naturaleza para las generaciones futuras
<b>Negative relationship between individuals and nature (relational disvalue)</b>	
#14	La mayoría de las personas estamos perdiendo nuestra conexión con la naturaleza
#15	Los espacios naturales dentro de las ciudades atraen suciedad, insectos, ratas y palomas. Esto no me gusta
#16	Hay aspectos de la naturaleza que me dan miedo
#17	No necesito pasar tiempo en espacios naturales para sentirme bien
<b>Negative relational bond between humans within their social communities through nature (relational disvalue)</b>	
#18	Ahora que los espacios verdes de Vitoria-Gasteiz están más llenos de gente debido a la pandemia, tienes que irte más lejos para estar solo. Esto no está bien
#19	Por la noche normalmente no paseo por los parques de Vitoria-Gasteiz. Intento evitarlos porque no me siento muy seguro/a
#20	No voy a algunos parques de Vitoria-Gasteiz por que suelen estar llenos de gente que no me gusta
<b>Positive framing of the instrumental value of NCP (instrumental value)</b>	
#21	El Anillo Verde contribuye a generar turismo y beneficios económicos para la ciudad
#22	Los huertos de los barrios y la agricultura urbana de Vitoria-Gasteiz son importantes para una alimentación sana y de proximidad
#23	La preservación de la naturaleza de Vitoria-Gasteiz es sinónimo de calidad de vida para los ciudadanos de esta ciudad
#24	Los parques urbanos de Vitoria-Gasteiz ayudan a generar un entorno saludable. Tienen un impacto positivo en nuestra salud corporal
#25	Los parques de Vitoria-Gasteiz son espacios que me ofrecen la oportunidad de hacer ejercicio como correr, andar en bicicleta, o patinar. Me hacen sentir muy activo/a
#26	Proteger la naturaleza nos ayudará a prevenir futuras crisis económicas causadas por la pérdida de especies y el cambio climático
#27	La naturaleza contribuye de forma notable a mejorar la calidad del aire
#28	Proteger la naturaleza nos ayudará a reducir el riesgo de nuevas pandemias y otras emergencias de salud pública
#29	Los espacios naturales me gustan para relajarme. Son espacios donde puedo pasar muchas horas
<b>Negative framing of instrumental values of NCP (instrumental disvalue)</b>	
#30	No me gusta el Anillo Verde porque siento que está sucio y llenos de mosquitos
#31	Creo que Vitoria-Gasteiz se gasta demasiado dinero publico en programas para conservar la naturaleza
#32	Pienso que los parques en el centro y en las afueras de Vitoria-Gasteiz son un aburrimiento. No tienen demasiado valour para mi
#33	Creo que parte del Anillo Verde debería de usarse para construir viviendas más baratas para la gente de Vitoria-Gasteiz
#34	Por lo general prefiero ver una película con un buen amigo que dar un paseo por la naturaleza con ese mismo amigo
<b>Intrinsic value of nature</b>	
#35	No creo que la función principal de la naturaleza sea servir a los humanos. La naturaleza tiene valour en sí misma
#36	Los animales se merecen tener derechos

TABLE A1 (Continued)

Item no.	Original statement in Spanish
Human-nature relational models	
#37	No pasa nada si perdemos bosques y humedales, si mantengamos lo suficiente para los humanos
#38	Los seres humanos tenemos el derecho a usar la naturaleza de la manera que queramos
#39	Prefiero vivir en un entorno urbano a un entorno rural

TABLE A2 Factor loadings for each Q-sort and factor.

Number Q-sort	Q-sort loadings on each factor			
	Factor A	Factor B	Factor C	Factor D
Q1	0.8236 <sup>a</sup>	0.4065	0.1799	0.1714
Q2	0.5196	0.6880 <sup>a</sup>	0.1696	0.1180
Q3	0.7939 <sup>a</sup>	0.4251	0.0146	0.2215
Q4	0.2791	0.6965 <sup>a</sup>	0.1906	0.2882
Q5	0.1956	0.6064 <sup>a</sup>	0.0115	0.5384
Q6	0.6765 <sup>a</sup>	0.3432	0.3236	0.2864
Q7	0.6281 <sup>a</sup>	0.4577	0.3747	0.0773
Q8	0.2019	0.5723 <sup>a</sup>	0.3140	0.3919
Q9	0.1540	0.0845	0.7229 <sup>a</sup>	-0.1978
Q10	0.7136 <sup>a</sup>	0.3678	0.2203	0.1934
Q11	0.7466 <sup>a</sup>	0.3894	0.2302	0.2760
Q12	0.5343	0.7080 <sup>a</sup>	0.1920	0.0235
Q13	0.7173 <sup>a</sup>	0.3769	0.2472	0.1183
Q14	0.1249	0.8964 <sup>a</sup>	-0.0191	0.0727
Q15 <sup>b</sup>	0.5115	0.5913	0.4186	0.0956
Q16	0.7030 <sup>a</sup>	-0.0521	0.0016	-0.1436
Q17	0.3338	0.6893 <sup>a</sup>	0.2048	0.2088
Q18	0.6843 <sup>a</sup>	0.4219	0.0656	0.3069
Q19	0.2436	0.1863	0.7315 <sup>a</sup>	0.3847
Q20	0.3547	0.5606 <sup>a</sup>	0.2821	0.0880
Q21 <sup>b</sup>	0.3322	0.6333	0.5405	-0.1005
Q22	0.2760	0.4866	-0.0888	0.6132 <sup>a</sup>
Q23	0.1096	0.0549	0.0276	0.8752 <sup>a</sup>
Q24	0.3867	0.7020 <sup>a</sup>	0.1251	0.2027
Q25	0.3956	0.6477 <sup>a</sup>	0.2690	0.1352
Q26	0.6607 <sup>a</sup>	0.2567	0.5322	0.2078
Q27	0.7752 <sup>a</sup>	0.4476	0.2623	0.1040
Q28	0.5556 <sup>a</sup>	0.2825	0.2428	0.2186
Q29	0.7283 <sup>a</sup>	0.3745	0.3587	0.2223
Number of loading Q-sorts				
$\Sigma = 27$	13	10	2	2
Percentage of explained variance				
$\Sigma = 73.63$	28.95	25.73	10.10	8.85
Factor	8.40	7.46	2.93	2.57
Eigenvalue				

<sup>a</sup>The flagged Q-sorts for each factor.

<sup>b</sup>Cofounded Q-sorts (they loaded significantly on more than one factor).