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Collective sustainability competences of universities as a nested institutional space

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Abstract

Sustainability action at universities is complex and requires engaging multiple competences that reside on different levels outside and inside the organisation. In addition to individual competences, social communities also possess collective resources and characteristics that do not translate into a sum of individual abilities. Based on a qualitative small-n comparative study of four universities in Spain, Portugal, Finland and Romania, this paper explores the concept of collective sustainability competences as enablers and constraints of sustainability action at universities. Drawing from institutional theory and nestedness in organisations, the article poses the following research question: How can the collective sustainability competences of universities be conceptualised? The article develops a conceptual understanding of regulative, normative and cultural-cognitive elements of collective sustainability competences as a nested institutional space. In so doing, the article contributes to the discussion on the capacity of universities to act as key organisations in sustainability transitions.

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1 | INTRODUCTION

The unfolding climate disaster and the environmental crisis are among the most pressing current problems facing humanity. No society, organisation or individual can hence avoid the responsibility for taking action towards planetary wellbeing and environmental sustainability (Kortetmäki et al., 2023, p. 9). In a similar vein, the social sustainability of societies is challenged by persistent inequalities and rising tensions between people. Progress towards sustainable development remains insufficient, nearly four decades since the United Nations' high-profile 'Brundtland Commission' introduced the concept onto the international policy agenda, defining it as development that 'meets the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development (WCED), 1987: Section 3.27, p. 16).

University's key role in societal transformations towards sustainability has been widely acknowledged, and research into sustainability in higher education has expanded recently (Findler et al., 2019; Leal Filho et al., 2018; Niedlich et al., 2020). Universities have both short- and long-term, direct and indirect, impact on sustainability through both their core and integrative activities such as outreach projects, assessment and reporting, research, education, campus operations and experiments in stakeholder engagement (Findler et al., 2019).

Universities are also key change agents in helping the current and future generations and societies at large to mitigate, adapt to and act against the negative impacts of the multiple contemporary and future crises. For this reason, also policy debates have increasingly recognised the role of higher education in fostering sustainability competences (Bianchi et al., 2022; UNESCO, 2017). The policy-led focus on individual competences (Rychen & Salganik, 2003) has been criticised for a lack of sensitivity to different contexts, leading to a narrow but hegemonic understanding of competences across the globe (Engel et al., 2019) and attributing the responsibility solely to individuals. Given the complexity of the world's pressing challenges, such as the sustainability crisis, more context-sensitive (Grotlüschen, 2018) and collective (Vare et al., 2022) understandings of competences are needed.

Sustainability action is constrained by the complexity and paradoxes that arise from the need to engage multiple actors and capacities in these efforts (Kemp & Scoffham, 2022). Earlier research has highlighted the importance of organisational aspects, such as leadership and policy, as well as individual and external factors, in enabling and constraining action towards sustainability in higher education (Blanco-Portela et al., 2017; Cheeseman et al., 2019; Hueske & Guenther, 2021). The efforts by universities and individuals towards sustainability can be hampered by institutional constraints and the absence of facilitating institutions (Hoover & Harder, 2015; Leal Filho et al., 2018). This calls for a holistic understanding of universities as organisations and for approaches that fully account for the complex nature of sustainability (e.g. Blanco-Portela et al., 2017).

To help the academic community to design effective measures for strengthening sustainability competences in their organisations, we need a better conceptual understanding of the hitherto relatively overlooked collective competences and their articulation with the individual-level competences (Hoover & Harder, 2015; Niedlich et al., 2020). To address this challenge, this article asks the following research question: How can the collective sustainability competences of universities be conceptualised? The article conceptualises collective competences as a multilayered set of rules, norms and cultural-cognitive elements that enable and constrain organisational action. By suggesting a more comprehensive understanding that encompasses both the individual and collective dimensions of sustainability, the article explores the potential of the notion of collective competences to help address the challenges faced by higher-education institutions in their efforts towards environmental sustainability (Espluga, Lehtonen, & Nokkala, 2023; Vare et al., 2022). In so doing, the article contributes to our understanding of the capacity of universities to act as key organisations in sustainability transitions.

The paper develops a conceptual framework that draws on institutional theory (Scott, 2001) and on the notion of nestedness in organisations (Hüther & Krücken, 2016) to analyse collective sustainability competences as a nested institutional space. It conceptualises space in relational terms, simultaneously as an organisational structure, a social relationship and a community. Two aspects are crucial. The first is the constant powerplay and boundary-demarkation in the processes whereby the collective competences are attributed across the various

levels and administrative boundaries involved in sustainability work in higher education organisations. The second concerns the symbolic dimensions of space, manifested in sustainability strategies, declarations, vision statements and action plans that help construct collective identities at such organisations.

To illustrate the framework and the ways in which collective sustainability competences enable and constrain action towards sustainability at universities, the paper focuses on environmental sustainability. It draws on preliminary findings from an analysis conducted at four higher education institutions in four European countries. Thus, the paper contributes to the discussion on the preconditions of sustainability work in universities, notably the challenges related to organisational relations and the gaps between rhetoric and practice in the promotion of sustainability (Wolff, 2011) in higher education.

2 | THEORETICAL FRAMEWORK: COLLECTIVE COMPETENCES AS A NESTED INSTITUTIONAL SPACE

The key concepts applied in our paper are collective competences, institutional pillars and space. In the following, we will first introduce these concepts one by one and then illustrate their relationships through a heuristic of collective sustainability competences as a nested institutional space.

Definitions of *collective competences* in education and organisation research include collective leadership (Yada & Jäppinen, 2022), knowledge and skills that enable a collective to take joint action (Clark, 2016), and shared sense-making through a shared knowledge base and strengthened relationships within the community (Boreham, 2004). In a similar vein, Daugbjerg et al. (2018) and Wu et al. (2015) have conceptualised such competences as a set of resources and skills that an organisation can mobilise to influence for instance policy. This conceptualisation contrasts with those that stress the individual competences of a leader rather than shared or distributed leadership (Dopson et al., 2019; Yada & Jäppinen, 2022) or prioritise the individual performance of the employees over group competence (Bennett, 2021; Boreham, 2004; Shinnors & Franqueiro, 2017).

Research on Environmental, Social, and Governance (ESG) criteria for sustainability in the business world has highlighted the importance of the collective level—the technical, managerial and commercial competences and corporate social responsibility (CSR) practices (e.g. Sierdovski et al., 2022). However, to the best of our knowledge, there is little research on the application of the notion of collective competences in education for sustainability in general and in higher education institutions in particular. Some notable exceptions in the context of higher education include Withycombe Keeler et al. (2018) and Finnveden et al. (2019), who stress the importance of collective competences for sustainability action. Withycombe Keeler et al. (2018, p. 11) explicitly distinguish collective sustainability competences from individual ones by defining them as ‘the knowledge and skills possessed writ-large in an organisation to implement sustainability’.

Central to the definitions of individual and collective competences is the ability of an individual or an organisation to act. However, we reject the notion that an organisation's capacity to act would be determined only by the competences of its individual members, such as its leaders, or by the sum of the individual competences and actions. Furthermore, we stress that this capacity to act is also conditioned by how the organisation relates to its operational environment (Frost et al., 2016), which in turn coevolves with the collective competences of the groups in the organisation (Bennett, 2021). Our approach stands in contrast with conceptualisations of organisational competence such as those of Taatila (2004) (pp. 87–88), which similarly define this competence as an organisation's ability to act, but consisting of assets, structure and individuals, without including the organisation's environment. In Taatila's (2004) view, based on a systematic analysis of literature, this environment is not part of its competence, but instead an external factor that shapes the relative importance of different elements of its competence.

We thus explore the collective competences as a comprehensive heuristic in which the individual, organisational and governmental competences are nested within each other (c.f. Wu et al., 2015). This nesting is more than

a simple hierarchy (c.f. Fligstein & McAdam, 2012), as the capacities often overlap (Hüther & Krücken, 2016), are mutually reconstituted, and their boundaries are therefore in constant flux. Furthermore, a given competence may fall within the remit of a national or regional authority, or reside with the institution itself, depending on the situation. Seeing an organisation's capacity being determined solely by a higher-tier authority would underestimate the strategic agency of the organisation (Fumasoli & Huisman, 2013). Similarly, individual competences are distributed, given that individuals simultaneously belong to several organisations and communities, such as work, study, family, hobby groups and voluntary organisations. Yet, although individual competences cannot be categorically attributed to a single organisation, in concrete situations, at a given moment in time, they manifest themselves within a given organisation, in spatially and temporally determined configurations between an organisation and its context.

To understand how an organisation's capacity to act depends both on its regulative and operating environment and on the communities, groups and individuals inside the organisation, we conceptualise collective sustainability competences as a nested institutional space. Higher-education systems are typically considered organisational fields nested within sub-national, national and, in the case of the European Union, supranational spheres of action, regulation and governance (Frost et al., 2016; Fumasoli, 2015; Hüther & Krücken, 2016; Marginson & Rhoades, 2002). In such spheres, actions are undertaken by a variety of partners (Fligstein & McAdam, 2012) that are impacted by diverse dynamics and cultures (Powell & DiMaggio, 1991). Nestedness is evident also inside universities as organisations, manifested in the distinct strategic orientations adopted by the various research groups (Nokkala & Diogo, 2020), in academic work practices and identities (Borlaug et al., 2023; Pekkola et al., 2020), and in the various embedded communities of practice within academia (Dingyloudi & Strijbos, 2018; Halilem et al., 2011; O'Donovan et al., 2008).

To explore higher-education institutions collective competences' (Espluga, Lehtonen, & Nokkala, 2023), we combine the notion of nestedness in organisations (Hüther & Krücken, 2016; Nokkala & Diogo, 2020; Scott, 2001) with the *three pillars of institutions* as conceptualised by the institutional theory (Cai & Mehari, 2015; Scott, 2001). Institutional theory typically conceptualises institutions as a combination of 'regulative, normative and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life' (Scott, 2001, p. 56), each of the three elements having its own basis of legitimacy and compliance. While institutionalism places at the heart of the analysis symbolic systems – notably rules, norms and cultural-cognitive beliefs – it also incorporates the associated behaviours and material resources as essential elements that produce, reproduce, modify and sustain these social systems (Scott, 2001, p. 57).

We operationalise the regulative, normative and cultural-cognitive (Scott, 2001, pp. 51–58) elements as collective competences for sustainability, embedded in multiple nested spheres of action. The most important for our analysis are on the one hand the 'external' administrative environment in which the universities operate—the European Union, the nation-states, and in some cases regions and even municipalities—and on the other hand the universities themselves, including their internal structures and subcommunities. The interaction between these spheres constitutes a nested institutional space or arrangement (Scott, 2001, p. 132), that is, the set of enabling and constraining features that condition the capacity of a community or an organisation to function in a manner that fosters sustainable development, and to prepare younger generations to act towards such an objective.

The idea of nestedness implies a relational conception of *space*. Central for our analysis is boundary demarcation (e.g. Kesteloot et al., 2009; Liu, 2021; Volvey et al., 2021), the constant work to define and redefine the boundaries that define the sphere of influence and competences of a jurisdiction, such as a nation-state or a university as an organisation. These spaces are nested within each other, just like universities are nested within regional and national systems of regulation and other networks and communities. These spaces are made up of, and constantly produced and reproduced, through practices, trajectories and interrelations (Massey, 2004), each having both enabling and constraining functions. The different scales – from global to local – are interconnected through myriad interactions between humans, material artefacts, symbols, institutions and discourses, which constitute space as 'assemblages of things' (e.g. Latour, 2005). Organisational nestedness therefore operates within

the multifaceted and multidimensional space in which the various actors and institutions of higher education interact around the (at least formally) shared objective of sustainability. Again, nestedness does not imply hierarchy, as the various dimensions of the 'assemblages', and even the various administrative 'spheres', are mutually reconstituted, in spatially and temporally delimited contexts.

In a relational conceptualisation of space, the constantly evolving 'assemblages' operate at various scales, and through various 'orders' and dimensions, be they legal, political, economic, symbolic, ethical or aesthetic (Volvey et al., 2021).¹ While we recognise that sustainability can be approached from the perspective of all these orders, and for example cuts across the scales from local to global, this article focuses on only two. First, crucial for our demarcation of the regulative and normative pillars of collective competences are the *administrative boundaries* and the respective prerogatives of the EU, the nation-state, and the regional and local authorities on the one hand, and our case study universities on the other. Even in a formally well-defined and hierarchical structure, the interplay between these administrative entities is imbued with continuous boundary-demarkation through powerplay and negotiation between the involved actors, notably on the allocation of economic and other resources. Second, the *symbolic order* of these interlinked spaces is manifested for example in the ways in which the sustainability strategies, declarations, vision statements and action plans seek to demonstrate the commitment of the involved communities to sustainability. Such strategies and symbolic expressions participate in the constitution of collective identities, embedded in the normative and cultural-cognitive competences.

Together the three concepts presented above highlight the dynamics of interaction, interdependence and coordination that both enable and constrain the university's capacity to act for sustainability. Figure 1 illustrates these in a heuristic of collective sustainability competences as a nested institutional space.

3 | RESEARCH DESIGN AND DATA

This article is based on a small-n qualitative case study (Seawright & Gerring, 2008) of four public universities – one in each of our case study countries in Europe. Given that we study only one university in each country, the findings are not designed to be representative of these countries' national higher education systems. Exploring

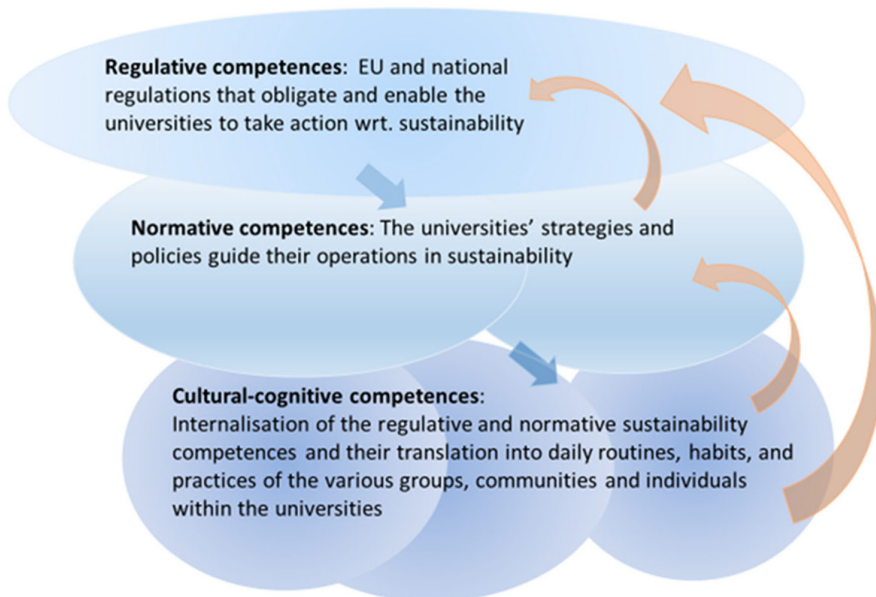


FIGURE 1 Collective sustainability competences as a nested institutional space.

the dynamics at multiple levels of higher education in several countries (Antonucci, 2014; Bray & Thomas, 1995), we thus aim at theory-development rather than theory-testing. In other words, we do not conduct a conventional comparison describing the similarities and differences between the cases but rather seek analytical and context-sensitive generalisations concerning the development, reproduction, maintenance and improvement of collective sustainability competences. The comparative criteria for the study of collective competences for sustainability should be seen rather as a result than the starting point of the study (e.g. Kosmützky et al., 2020).

The data for this analysis were collected as part of the ECF4CLIM project. The selection of the case countries and universities was based on pragmatic considerations arising from the needs of our research project, including the access to data and availability of resources. However, in selecting the case universities, we followed the method of 'diverse cases' (Seawright & Gerring, 2008), which seeks maximum variance in terms of relevant dimensions. In our case, variation concerns the size (one large and three medium-sized universities), functions and characteristics (three multidisciplinary universities and one large engineering school with an independent identity and significant autonomy within the university), and geographical location (Northern, Central-Eastern, and Southern Europe). Case studies were conducted in the following four universities:

- The University of Jyväskylä is a public multidisciplinary research university hosting 14,000 students and 2600 employees. The research strengths of the university lie in the study of learning, wellbeing and basic natural phenomena, with sustainability as among the core values.
- The Instituto Superior Técnico (IST) is the largest Portuguese public school of engineering, architecture, science and technology. IST is part of the University of Lisbon since 2013 but has significant autonomy and an independent identity. It has 11,000 students and employs approximately 1000 academic, professional and support staff.
- The University of Pitesti is a multidisciplinary public university located in central Romania with over 9000 students and 900 staff. The disciplines covered include science and engineering as well as social and human sciences.
- Universitat Autònoma de Barcelona (UAB) is a comprehensive public university with over 40,000 students and nearly 3800 staff, with teaching and research in disciplines ranging from human and social sciences (including health sciences) to experimental and technical sciences.

The illustrative findings presented in this paper were obtained by analysing the national-level regulations, such as higher education legislation and national curricula, plans, strategies and guidelines of the four universities, as well as interviews with key individuals and reconvened focus groups (Prades et al., 2017) representing students, academics and professional staff. The complete list of data is available in an online Appendix S1. More comprehensive contextual information is available online, in project deliverables presenting the analysis of the national policies and curricula (Alves et al., 2022: project online deliverable D3.2), and the institutional policies and results of the focus groups (Espluga, Lehtonen, & Nokkala, 2023: project online deliverable D4.1).

The documentary data analysis aimed at identifying the regulative and normative competences, bearing in mind that a given competence may in one country be regulated at national or regional level, but may in another country fall within the remit of the university. The analysis identified what the legislation and regulation external to the university as well as the universities' own policies, strategies and programmes say on who should plan, implement, evaluate and continuously refine the university's activities related to sustainable development, how this should be done and with which resources. Data from the so-called reconvened focus groups were used to identify the cultural-cognitive competences. In these groups, the participants were asked to reflect, individually and collectively, on the concepts they relate to 'sustainability', as well as the drivers and barriers they perceived for improving sustainability in their respective institutions. The analysis sought to capture the attitudes and general atmosphere relating to sustainability mentioned by the participants, in particular: (1) whether they evoked practical rules or tacit, taken-for-granted social norms concerning sustainable

behaviour, (2) the degree to which they considered sustainability as an important issue and decision-criterion within the organisation and (3) whether they talked about resistance to change and assumptions that may hinder or enable sustainability.

A small-scale qualitative study design inevitably entails limitations, such as the limited degree of generalisability of findings beyond the four case universities. A strength of the distributed data collection method was that the national experts were the best placed to identify, for example, relevant documentation in each given context. However, the method had the downside of adding potential variation to the data, especially given the varying disciplinary backgrounds of the experts. Finally, the data collection did not consider other potentially relevant national legislative stipulations such as those pertaining to energy production, public procurement or waste management, which affect the ability of the universities to pursue sustainability.

4 | THE THREE DIMENSIONS OF COLLECTIVE SUSTAINABILITY COMPETENCES

In the following, we present examples of the collective sustainability competences from our four case universities, seen through the perspective of Scott (2001), which entails three dimensions or 'pillars' of institutions. The illustrative findings from the empirical cross-case comparison are summarised in Table 1 at the end of this section. The analysis revealed, in all four cases, a tension between the regulative and normative competences on the one hand and the cultural-cognitive ones on the other. Such tension was to be expected, yet the analysis conducted here also allowed us to better identify and specify the aspects in which 'theory and practice' coincide and where they diverge.

4.1 | Regulative competences

The regulative competences, which we locate primarily outside the universities themselves, refer to the rules and laws that constrain and regulate sustainability action, through coercive mechanisms such as rule-setting, monitoring and sanctioning (Scott, 2001, p. 68). In our study, these include the national legislation pertaining to higher education, such as the acts governing universities but also for example national curricula. While we recognise that various societal and national norms and cultures also influence universities as well as the individuals and communities within them, for the sake of clarity we focus on those sustainability-related regulations and policies that are introduced by the central and regional authorities governing over the universities and that define how and by whom sustainable development is to be addressed and promoted. In all four case universities, though varying between the countries, legally stipulated university autonomy is a key principle that also frames their sustainability action. This autonomy extends from the collective decision-making bodies within the university down to individual teachers and professors, who enjoy plenty of freedom to decide how, if at all, to address sustainability. Thus, university autonomy can be seen as a regulative competence that enables the university to act.

However, the regulative competences vary between the case universities in terms of whether or not a national university education curriculum regulates university teaching. In Romania, the national curricula specify the mandatory requirements for teaching and leave teachers and students with little space and time for extracurricular sustainability-related activities. Another example of the importance of the regulative competences is the central role of quality assurance agencies in closely supervising and controlling the universities' compliance with the national curricula in Romania. The regulative competences embodied in the Romanian national curriculum therefore seemed to primarily constrain rather than enable action. In Finland, an agreement negotiated jointly between the Ministry of Education and Culture and the University of Jyväskylä regulates the goals of the university. It includes sustainability, but does not define how sustainability is to be addressed in teaching.

TABLE 1 Illustrative findings from the empirical cross-case comparison.

	University of Jyväskylä, FI	Instituto Superior Técnico, PT	University of Pitești, RO	Universitat Autònoma de Barcelona, ES
<i>Regulative competences</i>				
Basic framework for implementing sustainability in legislation and policy: who decides on the basic tenets of sustainability?	<p><i>Common for all: Laws and regulations contain provisions about university autonomy & basic infrastructure</i></p> <p>Statements about sustainability by Universities Finland – UNIFI (organisation representing university rectors)</p> <p>Performance agreement between the university and the Ministry of Education and Culture regulates the goals for sustainability but leaves the means identification for the university</p>	<p>The university has the right and the duty to decide on the allocation of resources for sustainability-related activities</p>	<p>National policies pertaining to sustainability contain targets for sustainability in university teaching and student sustainability knowledge and skills</p> <p>National curricula and quality assurance frameworks strongly steer and constrain the university</p>	<p>Statements about sustainability by CRUE – Spanish Universities (organisation representing university rectors)</p> <p>The university has the right and duty to decide on the allocation of resources for sustainability-related activities</p>
<i>Common for all: Normative competences</i>	Structures and strategic plans focus on CO ₂ emissions and biodiversity	Organisational structures and strategic plans focus on environmental performance and cost reduction	Structures and strategic plans focus on environmental performance and cost reduction	Structures and strategic plans focus on environmental performance and cost reduction
Institutional framework for sustainability through institutional policies and practices:	Multidisciplinary collaboration to elaborate university sustainability policy and curriculum	Sustainability falls within the responsibility of technical staff	Sustainability falls within the responsibility of technical staff	Sustainability falls within the responsibility of technical staff
What are the focus and priorities in strategies and budget?	<i>Common for all:</i> Outsourcing of services typical, which limits the ability of the university improve its technical environmental performance			
Who decides and has responsibility?	Inclusion of sustainability in teaching and in the institutional mission			
Who are involved?	Teachers have extensive autonomy, but the tight curriculum constrains the addition of sustainability elements			
What are the principles and criteria of university services?	Freedom in budget allocation, but inertia and path dependencies, challenges of prioritisation			
Is there space for inclusive dialogues and collaboration for promoting sustainability?				

TABLE 1 (Continued)

	University of Jyväskylä, FI	Instituto Superior Técnico, PT	University of Pitești, RO	Universitat Autònoma de Barcelona, ES
Cultural-cognitive competences	Students perceive heavy coursework and time pressures	Perceptions that there is a lack of communication and concerted effort towards sustainability across the organisation; sustainability action rests on the shoulders of motivated individuals	Perception that legislation does not adequately support sustainability or is not complied with	Perception that sustainability is still seen as a matter of individuals only
Engagement with sustainability within the university community:	constrain ability to engage with sustainability			
Are there blame games?	Introducing a mandatory sustainability course for all from 2024 onwards perceived as positive			
How is infrastructure perceived – as enabling or constraining?				
	<p><i>Criticism over poor visibility and realisation of ambitious goals in studies and practices</i> <i>Blaming dominant unsustainable values</i> <i>Evading personal responsibility: pointing at collective responsibility and leadership</i> <i>Perception of infrastructure enabling or constraining sustainability action</i></p>			

Indirectly, sustainability action at universities is constrained and facilitated by a host of regulations that do not explicitly target sustainability. These include laws and regulations pertaining to energy efficiency of buildings and to public procurement. The latter stipulations may allow or constrain universities' ability to consider environmental aspects as tender criteria (Hueske & Guenther, 2021). While we did not systematically review the regulative frameworks that have an indirect bearing on sustainability, the reconvened focus group participants stressed the limited possibilities of the case universities to improve their sustainability on such infrastructure-related matters, because the municipal (in Spain, also regional) authorities play a prominent role in decisions concerning such services as energy and water supply, waste collection and recycling. In a similar vein, at all universities but the Finnish one, the teachers and students pinpointed the poor quality of infrastructure, both within the university and in the municipality (e.g. public transport infrastructure, lack of green spaces, poor energy efficiency and building insulation, waste recycling and bike lanes) as a major obstacle to sustainability.

4.2 | Normative competences

The normative competences comprise the organisational values and norms that define what is desirable in the organisation and the means for achieving the desired ends. In contrast with regulative competences, which are underpinned by coercion, normative competences rely on social obligation and appropriateness as compliance mechanisms (Scott, 2001, pp. 64, 68). In our case universities, the normative frameworks for sustainability include the strategies that outline the university's goals vis-a-vis sustainability, and the policies and resources to achieve those goals (Leal Filho et al., 2018). Institutional work (Vukasovic, 2014) is needed to adapt and translate the regulative competences into normative competences, within the specific organisational context. In our case, this entails translating the national and regional level requirements into organisations' own strategies and policies, as well as assigning the responsibilities and allocating the resources needed to achieve the stated goals.

All four case-study universities have organisational structures and strategic plans dedicated to sustainability, coordinated by a unit of the university management, thus contributing to the normative sustainability competences. The university plans in Spain, Portugal and Romania mainly focus on the environmental performance and on achieving cost savings via improvements in the operation of the campus infrastructure, energy and water consumption, waste management, etc. The responsibilities for sustainability are typically assigned to the technical staff. Only the University of Jyväskylä in Finland has established a 'Sustainable and responsible development team', composed of professors and experts from various faculties, to advise the university on its sustainability policies and curriculum development.

All four universities have chosen to outsource many of their services (maintenance, cleaning, catering, waste collection, etc.) to external suppliers. By committing themselves to often rigid fixed-period contracts with subcontractors, the universities voluntarily reduce their margin of manoeuvre in the field of sustainability.

All four universities also require the inclusion of sustainability in teaching and in their mission statements, usually prioritising environmental and technical aspects. Only the Finnish JYU, under its Planetary Wellbeing Initiative, has made a clear attempt to address the social, economic and cultural dimensions of sustainability in an integrated manner. However, such sustainability plans and university curricula leave plenty of freedom for the teachers to decide whether, what and how to teach on sustainable development, as long as the teaching remains within the scope of the pedagogical objectives outlined in the course descriptions and approved by the university, and, in the Romanian case, supervised by the quality assurance agencies (regulative competences). The normative competences in the form of sustainability requirements in the curriculum are a double-edged sword: they enable the university to take sustainability action, but as many participants noted, teachers and students suffer from near-chronic lack of time and resources for extracurricular sustainability-related activities, precisely because of strict curricular demands.

Institutional and organisational inertia related to resource allocation is a major impediment to change. As such, it illustrates the internally nested character of universities, and the way in which—even in the absence of external constraints – the universities struggle to mobilise these competences for sustainability. The resources for sustainability work typically come from the university's general budget and not from a separate budget line. While universities could in principle freely invest in and prioritise sustainability, in practice this would imply cutting resources from existing and often well-established courses and activities. Such attempts at reallocation therefore often face resistance from the established disciplines and units within the university. For this reason, the promotion of sustainability typically takes the form of voluntary information and awareness campaigns. An exception is the University of Jyväskylä in Finland, whose agreement with the Ministry of Education and Culture evokes sustainability. This mandates the university to address sustainability (regulative competence) and also facilitates the internal resourcing of sustainability work (normative competence).

4.3 | Cultural-cognitive competences

Finally, the cultural-cognitive competences refer to the shared conceptions (Scott, 2001, p. 67) regarding sustainability in the institution. Compliance in the cultural-cognitive domain is achieved via taken-for-granted, shared understanding of the 'way things are done', grounded in routines, habits, and mental scripts (Scott, 2001, p. 68). We locate the cultural-cognitive competences within the various groups and communities that make up an organisation (Elder-Vass, 2008). Obviously, individuals are part of various communities also outside the university, and their perceptions are influenced by the broader society, including the prevailing societal rules, norms and practices. The acquisition of cultural-cognitive competences thus entails the internalisation of the regulative and normative competences as taken-for-granted social norms of acceptable and desirable behaviours and their translation into the organisation's daily routines, habits and practices relevant for sustainability action (Sylvestre et al., 2013; Viegas et al., 2016).

Intriguing tensions and contradictions emerged from our analysis of the degree to which sustainability has become part of the daily life of students, teachers and staff. The analysis supports the notion that even when sustainability features centrally in the regulative and normative competences, it may not necessarily be integrated in the cultural-cognitive sphere of collective competences.

Especially the students, according to our empirical data, tended to criticise the concept of sustainability for its vagueness, arguing that there was a discrepancy between the normative strategies and plans emphasising sustainability and the extent to which these were internalised in the institutional values, practices and incentives manifested for example in the course syllabi. Students therefore lack knowledge not only on the notion of sustainability but also on what, if anything, the university is doing on the matter. While for example the Finnish and Spanish students attributed the blame to the university, the Spanish teachers, instead, pointed out the difficulty of mobilising students for sustainability action. The Finnish JYU participants stressed that the university students are under constant pressure to perform and follow the mandatory course schedules, which undermines their ability and motivation to participate in sustainability activities. The Romanian students blamed the universities for being resistant to change and for thereby setting a bad example that undermines the effectiveness of sustainability education. Likewise, both the teachers and the students at the Spanish UAB called for better organisation, collective action and institutional change at the university to motivate students to act for global environmental causes. A generally held conviction at all four universities seemed to be that sustainability work can only succeed in the presence of a firm commitment by the university leadership.

Where organisational inertia and rigidity hamper the normative dimension of sustainability competences as described above, they appear as a problem also in relation to cultural-cognitive competences. When regulative or normative frameworks are weak or missing, sustainability action remains voluntary and is mainly undertaken by those who already are highly aware and knowledgeable on the issue.

5 | DISCUSSION

Sustainability action at universities is complex and overwrought with challenges (Kemp & Scoffham, 2022; Niedlich et al., 2020; Sylvestre et al., 2013). Implementing a complex agenda requires engaging multiple competences that reside on different levels outside and inside the organisation and encompass a broad range of interacting individual and collective competences. The exploration of the collective sustainability competences at our four universities highlights the crucial role of the institutional space and networks of influence within which the organisations' capacity to act is embedded. As organisations, universities are nested within different spheres of regulation, but they also consist of nested communities of individuals within the organisation. To obtain a comprehensive picture, the collective competences have to be seen as emergent outcomes of the organisational nestedness, whereby the different dimensions of collective competences—regulative, normative and cultural-cognitive—coevolve with each other and with their temporally and spatially delimited context. The analytical framework presented in this article is designed to help conceptualise universities as entities simultaneously shaping and being shaped by the ideas, interests and identities of their stakeholders and other involved actors, across multiple nested spaces. The article has highlighted the diverse ways in which collective competences – ranging from explicit rules and regulations to more subtle cultural norms, values and routinised behaviours – shape action, attitudes and perceptions both within and beyond the university community.

Despite country- and university-specificities, several similarities were identified between the four cases. These include the significant autonomy of the universities in strategic, infrastructural and financial decisions related to sustainability, as well as in those relating to sustainability courses and syllabi. Common was also the perception of a significant gap between words and action: the bold ambitions set out in regulation and university plans and strategies often fail to translate into practice and to become internalised in the cultural-cognitive sphere. The four cases differ in terms of the sharing of rights, duties and responsibilities between governance levels—and hence in the respective roles and implications of regulative and normative competences at the universities.

The Finnish case appeared as an outlier in several, mostly positive, respects. The JYU seeks to address sustainability in a holistic, multidimensional manner and has established an advisory team for 'Sustainable and responsible development', designed to engage a larger proportion of the university community in sustainability work (c.f. Niedlich et al., 2020). Furthermore, unlike in the three other countries, the students and teachers did not criticise the university infrastructure for poor environmental performance.

Paradoxically, the perceived lack of time and other resources for sustainability work partly stems from the freedom that teachers—and universities as autonomous organisations – enjoy in decisions concerning sustainability activities. This autonomy enables and empowers the universities, teachers and professors, but it also undermines predictability, stability, continuity and institutionalisation, as sustainability is left at the mercy of individual initiative. Such weakness of the collective competences places excessive burdens on the individual competences – in this case the awareness, motivation and energy of the university teacher, who is seldom compensated for undertaking these extra tasks. At the organisational level, the autonomy and lack of dedicated sustainability funding reinforces institutional inertia, as well-established disciplines and courses take precedence in the competition for scarce resources. In general, weak operationalisation and resourcing of sustainability action impeded the development of normative sustainability competences.

Admittedly, the choice made in this article to locate the regulative competences only at the national and regional level and the cultural-cognitive competences within the sub-communities inside the universities fully captures neither the complexity of the relationships between the spheres nor the interplay between the diverse competences associated with those spheres. For example, our data show that the general practices, norms and resources at the societal level can either facilitate or hinder the acquisition and development of collective sustainability competences, and that the prevailing consumerist societal values can impede sustainability action and the emergence of a sustainability culture also inside universities.

The analysis presented also illustrates the dynamics, contradictions and tensions within university organisations and thus deepens our understanding of the notion of organisational culture, highlighted in previous research as key to promoting sustainable development at universities (Niedlich et al., 2020). Similarly, the article highlights the importance of the alignment across the various collective competences. For example, the impact of sustainability policies elaborated by the universities (normative competence) may be undermined by routines that reproduce unsustainable behaviours (cultural-cognitive competence). Similarly, when the regulative frameworks do not mandate sustainable action, the normative, organisation-level strategies may in turn have to be strengthened.

Scott's (2001) theory of the three institutional pillars has been useful in helping us to develop the notion of collective sustainability competences, yet the focus of these two conceptualisations is somewhat different. The institutional theory underscores the role of various institutional pressures (Paradeise & Thoenig, 2013; Scott, 2001) in stimulating sustainability action, such as external sustainability regulations or the mimetic pressure to find a competitive edge. The collective competences, in contrast, highlight how the competences—the ability to act for sustainability—are constituted via the interaction between the internal and external dynamics and resources of the organisation. Moreover, where the institutional theory highlights the nature of the institutions as regulative, normative and cultural-cognitive, and the distinct mechanisms of compliance underpinning those institutions, the notion of collective competences foregrounds the knowledge, skills, and attitudes of the individuals and communities within an organisation. Thus, as discussed above, the university's ability to act for sustainability does not depend only on the autonomy and resources that the regulative and normative competences provide, but also on the active, conscious roles of staff and students as producers and consumers of sustainability knowledge and skills. The notion of collective competences can thus illuminate both the 'why' and the 'how' of sustainability action at universities.

The nestedness of the competences implies constant boundary demarcation and powerplay. Such boundary work is essential for shaping the operation of organisations within this nested institutional space. Given that our illustrative case studies highlight the importance of allocating sufficient human and financial resources for sustainability work, a crucial question is who has the power to attribute responsibilities and allocate resources. Our analytical framework helps to identify the locus of decision-making and the degree of freedom that any given actor group or entity has in this process. It also helps to examine the leeway that any given configuration of collective competences allows for the various players in the game. The involved actors may blame their own powerlessness, yet they may not always be aware of the means and resources at their disposal. Obviously, complaining about powerlessness can also be a conscious strategy of externalisation of blame and a convenient excuse for inaction.

The tendency of various actors to externalise blame indeed was one of the salient findings of our study. In our case studies, the participants frequently attributed organisational inaction to features such as inadequate infrastructure, growth-oriented and economist societal values, consumerist culture or short-termism. The notion 'we cannot do much, unless the societal values change' externalises the responsibility for sustainability action away from the organisations and individuals and communities to supposedly external societal features.

Our conceptual findings are summarised in Table 2. Analysing the three dimensions – regulative, normative and cultural-cognitive – of collective sustainability competences helps to understand how the mental scripts concerning sustainability within the community not only shape but are also shaped by the more concrete regulative and normative competences. None of these three dimensions of collective competences alone is decisive, yet in everyday practice people tend to attribute blame or praise to only one dimension at a time.

The notion of collective competences offers a heuristic that helps to identify and make explicit some of these interactions and helps to bridge the conceptual gap between the individual and collective level in understanding the potential drivers and barriers of sustainability action (Espluga, Lehtonen, Prades, et al., 2023). The article furthermore illuminates the importance of collective competences for transformative action, for which individual competences are not sufficient. While the empirical cases in this article focused on environmental sustainability, the notion of collective sustainability competences is by no means limited to this dimension. It allows an analysis of an organisation's capacity to act—an evolving outcome of the dynamics of the regulative context, the

TABLE 2 Illustrative elaboration of collective sustainability competences.

Definitions	Contents	Tensions
Regulative competences <i>International and national university policies, laws and regulations that obligate and enable universities to take action</i>	Framing mission, role, and responsibility Resource allocation and evaluation	<i>Autonomy versus control</i> and global and national goals
Normative competences <i>Universities' own strategies and policies guide their operations in sustainability</i>	Defining <i>responsibilities</i> within university <i>Prioritisation in allocation of resources</i> (aligned with societal regulations)	<i>Freedom to prioritise and realise versus inertia</i> Control over sustainability versus outsourcing the services
Cultural-cognitive competences <i>Integration of regulative and normative competences and their translation into daily routines, habits and practices of the various groups, communities, and individuals within university</i>	<i>Cultivating a sustainability culture</i> within the university <i>Integration and prioritisation of sustainability</i> in education, research, and service →visibility	Making <i>initiatives</i> versus <i>blame-game</i> , pointing and evading responsibility

organisation's own normative endeavours and the collectively held views, perceptions and habits of its constituent groups and individuals—across the entire spectrum of sustainability. This includes analysing the synergies and trade-offs between the various dimensions of sustainability, such as those relating to environmental, social, economic, cultural or governance aspects. Furthermore, the potential applications extend beyond sustainability to cover other complex challenges, such as universities' efforts to combat inequalities and racism, which can only be addressed effectively by seeking alignment between regulative, normative and cultural-cognitive elements (c.f. Hall et al., 2021).

As a result of our study, we therefore propose the following tentative definition of collective competences, to be elaborated and tested in further research: Collective competences refer to the capacity of an organisation to act, which coevolves with the nested institutional space made up of the constant interaction of human, material, institutional, symbolic and discursive environment external and internal to the organisation and its communities.

The understanding of the dynamics of collective competences helps organisational leaders and actors to analyse the gaps and opportunities in the university's ability to act upon complex challenges and to identify the most promising spheres and means of action.

AUTHOR CONTRIBUTIONS

Terhi Nokkala: Conceptualization; supervision; writing – original draft; formal analysis; project administration. **Markku Lehtonen:** Formal analysis; writing – original draft; data curation; methodology; conceptualization. **Anna Lehtonen:** Formal analysis; data curation; writing – original draft; visualization. **Josep Espluga Trenc:** Formal analysis; data curation; methodology; writing – review and editing; project administration. **Niina Mykrä:** Data curation; formal analysis; writing – review and editing. **Hannu Heikkinen:** Writing – review and editing; project administration. **Ana Prades Lopez:** Writing – review and editing; project administration; funding acquisition.

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CONFLICT OF INTEREST STATEMENT

None of the authors have any conflict of interest to report.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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ENDNOTE

¹A graphical presentation of such orders and dimensions can be found at <https://spatialites.hypotheses.org/positionnement>.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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