

Exploring Academic Culture: Unpacking its Definition and Structure (A Systematic Scoping Review)

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ABSTRACT

Background: The concept of academic culture lacks a standardised definition, and its structural components have not been clearly outlined or universally agreed upon.

Purpose: This systematic scoping review aims to synthesise literature on academic culture, delineate its demographic characteristics, and extract definitions of academic culture and the components of its structure.

Method: A search was conducted in the bibliographic database Scopus on August 2nd, 2023. Additionally, a search for related grey literature was carried out on August 3rd, 2023. We included studies published in English post-2018 that discuss academic culture. Titles and abstracts from the retrieved records were screened for relevance. Demographic characteristics related to academic culture were extracted from all search records. We then extracted statements from research articles, book chapters, editorials and reviews defining academic culture and describing components of its structure. These identified structural components were categorised and thematically grouped, and then distributed according to the obtained components of academic culture. This review followed the guidelines of PRISMA-ScR to perform the study search and selection.

Results: The search yielded 961 records, of which 94 met our inclusion criteria. Predominantly consisting of journal articles, book chapters, or reviews (78.44%), only 23 of these records provided definitions of academic culture and its structure. Notably, different definitions frequently conflated academic and organisational culture. The structure of academic culture was delineated into three primary components and their subcomponents. This review also analysed the main focuses of academic culture during the specified period highlighting the importance of sustainable development across the three primary components of academic culture and shedding light on the diversity of academic culture models.

Conclusion: This study successfully identified the key structural components and summarised the existing definitions of academic culture. It also highlighted principal research directions for studying academic culture. A significant aspect of this review is the investigation of various levels of academic culture, emphasising a meta-level of academic culture as a global, conventionally-determined dimension. This meta-level serves as a universal hallmark for the development of both national and local academic cultures.

KEYWORDS

academic culture, research academic culture, organisational culture, academic culture architecture

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INTRODUCTION

Since the beginning of studies in higher education, the cultural elements of universities have consistently attracted attention. Early research by scholars delved into the ideologies prevalent among stu-

dents, academics, and higher education institutions at large (Becker, 1963; Reisman & Jenscks, 1962). Being the starting point for identifying academic culture as a separate category, these studies gave impetus to understanding the special architecture of academic culture and its

system-forming characteristics. More recently, the concept of a specific culture behind higher education has been critically examined, particularly its supposed neutrality. Neutrality has become a political choice supporting the state of affairs that exists at a particular time neglecting its own codes and values thus preventing readers from comprehending the ideology-driven function of education involving the generation of specific types of knowledge, authority, societal beliefs, ways of acting, and accounts of the world (Filippakou, 2023). This examination has brought to light the existing tensions within the established university culture, notably those between academics and students, as identified by Pedraja-Rejas (2022). Present-day standards and more culturally diverse students demand student-centred, active-learning approaches more suited to their specific needs (Stensaker, 2018). This line of thought has evolved to understand the university system as being deeply embedded in a culture while also serving as a manifestation of that specific culture (Savarese et al., 2013, Bopape, 2022).

Apparently, today universities possess a cultural or symbolic dimension which is not incidental to nor separate from the structural elements of their organisation but separable only conceptually. The immanence of an organisation culture today no longer needs justification and has received widespread coverage in the works of researchers globally (Lacatus, 2013; Coman & Bonclu, 2016; Akyol et al., 2020; Rosanti & Udin, 2022). Following Harman (1989), who substantiated the understanding of different levels of culture perception within a university as an academic organisation, its structure and hierarchy are also indisputable (Mzangwa, 2019; Akyol et al., 2020). Moreover, it becomes clear that at different levels of structure, distinctive forms of culture are created and sustained. In universities three levels of structure that give rise to different cultural forms are those pertaining to administrative frameworks, students and members of the academic staff (Kareem et al., 2022; Rosanti & Udin, 2022).

The cultural dimensions of higher education institutions are analysed through at least four distinct approaches: (1) the culture of higher education systems, (2) the culture of professions and disciplines, (3) the culture of universities, and (4) skills of the actors in the scientific research and educational process.

The culture of higher education systems examines the significant changes in the concept of higher education over recent decades. This includes moving away from traditional views of these institutions as entities primarily responsible for professional training (Petersen & Bartel, 2020). Universities are defined by social commitment that play a vital role in the development and improvement of the society, contributing to the welfare of citizens (Ramos-Monge, 2017). These studies highlight the influence of emerging knowledge societies, increased student enrollment, and shifts in funding sources, leading to a redefinition of higher education institutions' objectives and a new ethos (Musselin, 2012). Some

researchers even argue that the neoliberalization of higher education systems has led universities to deviate from their cultural missions, transforming them into entities predominantly guided by financial imperatives. Moreover, this erosion between education and profit forces students to take on excessive student loan debts and face decreased preparedness and increased basic needs insecurity (Nazmi et al., 2019; Schraedley et al., 2021).

The second perspective on the culture of higher education explores the realm of professions and disciplines. Studies in this area have highlighted how shifts in the political economy of higher education systems are reshaping the identities of graduate students. Attributes like flexibility, teamwork, critical and analytical thinking, communication skills, creativity and problem-solving skills have gained prominence (Poláková et al., 2023). In this context, the evolving culture of the academic profession, despite its traditional roots, is a key area of focus (Barnes, 2021). In terms of disciplinary culture, some research points to significant differences in the self-perceptions of academics based on their knowledge domains (Kaweesi, 2018), while other studies explore how recent trends, especially the increasing emphasis on interdisciplinarity and practical knowledge, are altering the objectives of scientific disciplines, even more, multidisciplinary and interdisciplinarity have also become important for research policy (Mazzocchi, 2019; Daniel et al., 2022).

The third strand of research in the culture of higher education examines the predominant ideologies within various higher education institutions. This approach looks at the institution as a whole, scrutinising its self-concept and the resulting impact on students, academics, and administrators. Historically, the important functions of university include inheriting culture, practising culture and innovating culture. Key areas of interest include the mission and objectives of universities, their historical paths, and their responses to changes in the political economy and governance of the national system including pursuing of science, advocating of academia and raising of spirit. This line of study also considers how global pressures, such as the competition to conform to the research university model, the drive to be an attractive destination for students and academics, and internal demands for professional administrative structures in university management, are internally transforming the culture of different institutions (Shen & Tian, 2012).

The fourth research direction shapes the perception of the potential of a specific culture through the prism of the competencies of its carriers (Tusyanah, 2023). Even the highest examples of a particular culture can falter due to the current carrier's inability to interpret its axioms, follow them, and develop them (Zhao et al., 2022). And, although culture shapes its career, a reciprocal influence also determines the possibilities for cultural development, especially when it comes to the culture of a specific organisation.

At the same time, the aforementioned studies do not provide a clear understanding regarding the equivalence of the terms 'organisational culture' and 'academic culture' in relation to the university. A significant portion of researchers confuses the concepts of organisational culture and academic culture. There is a lack of a shared understanding of the term 'academic culture' among researchers, leading to difficulties in constructing its hierarchical architecture. This, in turn, results in contradictory interpretations of the structural components of academic culture. The absence of a clear understanding of the boundaries and architecture of each of these types of culture creates challenges in developing effective strategies for the development of the research and educational spheres of the modern university.

The current review is centred on one of the three aspects within the third dimension of academic culture. Within the triad of students, academics, and administrators, the authors are primarily focused on the academic culture of researchers. This facet of academic culture is pivotal in moulding the environment of an educational institution, impacting not just the effectiveness of a university's research outcomes but also its overall educational achievements. The purpose of this systematic scoping review is to examine pertinent scholarly sources that scrutinise the academic culture of researchers, with the goal of refining its definition and elucidating its structure. The society of knowledge necessitates the construction of the educational process as a research-oriented endeavour aimed at knowledge acquisition, which requires a profound understanding of academic culture values from all participants in the educational process. The current level of development of a researchers' academic culture, in which both academics and students play pivotal roles in this education concept, is significantly influenced by the academic culture. This culture is intended to define and shape the organisational culture of higher education institutions. Given the challenge of comprehensively covering both the academic culture of students and that of researcher-academics in a single review, this analysis will primarily focus on academics. The guiding research question for interpreting the results of this review is the relationship between the concepts of a university's organisational culture and its academic culture.

METHOD

Transparency Statement

Before commencing this study, we formulated a protocol. We affirm that this manuscript is a truthful, precise, and clear representation of the study; it reports all essential aspects of the research and adheres strictly to the original plan without any deviations. This section briefly restates our study methods, largely drawn directly from the original protocol. The PRISMA statement was utilised as a guideline for reporting this systematic scoping review.

Search Strategy

The search strategy was developed and refined through iterative consultations of all the members of the review team. The strategy was peer-reviewed by a qualified information specialist using the PRESS Checklist before execution. We searched the Scopus database. The searches were conducted on August 2, 2023. We employed various free-text phrases related to academic culture (e.g., 'university academic culture', 'academic research culture', 'research culture', 'adequate research culture', 'healthy research culture', 'academic literacy', 'academic work', 'academic integrity', 'academic culture structure', 'research culture structure') tailoring vocabulary and syntax for the Scopus database. Results were limited to publications from 2018 onwards. While the concept of academic culture has been extensively analysed by scholars over many years, our focus was on sources that have been recently published.

Relevant conference abstracts and Google Scholar were also searched for grey literature. For Google Scholar, an advanced search was conducted on August 3, 2023, using keywords: 'academic culture', 'research culture', 'academic research culture', limited to publications from 2018 onwards.

Study Population and Eligibility Criteria

The study population consisted of articles, reviews, book chapters and editorials, characterising, or describing academic culture (Table 1). We included all study designs from any discipline found in our search, reported in English. This encompassed research articles, as well as editorials, book chapters and reviews for our demographic extraction. For the extraction of academic culture structural components, our sample was limited to studies providing empirically derived components of academic culture.

Screening and Data Extraction

Development of Data Extraction Forms

Data extraction form was meticulously developed and tested before the commencement of data extraction (Table 2).

Initial Screening Process

The first step involved screening titles and abstracts against our predefined inclusion criteria. This preliminary assessment helped us determine the relevance of the sources for full-text verification.

Full-Text Article Verification

After the initial screening, full-text sources were further assessed to ensure they met the inclusion criteria. Key information extracted from each study included:

Table 1
Eligibility Criteria

Criterion	Inclusion	Exclusion	Justification
Population	All the studies characterising or describing academic culture from Arts and Humanities and Social Sciences	All the studies outside the defined field	Focus on academic culture and research including all the actors of educational process
Concept	Studies (including journal articles, editorials, book chapters and reviews) which discuss implicitly and explicitly the concept of academic culture and its architecture	Studies which do not relate the concept of academic culture	The purpose of the review is to synthesise literature on academic culture, delineate its epidemiological characteristics, and extract definitions of academic culture and the components of its structure.
Context	Studies relating university settings	Studies outside the university context	Due to the essence of academic culture to focus on higher educational institutions
Language	English	Non English	Due to the transformation of academic English into the lingua franca of scientific communication
Time period	Year 2018-2023	Before 2018	To manage resources and to cover newly published sources we focus on 5-year period in order to trace any changes in academic culture definition and its structure
Type of sources	1. Peer-reviewed journal articles 2. Book chapters 3. Editorials 4. Reviews (all types)	1. Non peer-reviewed sources 2. Conference papers	Aim to capture more sources than only peer-reviewed journal articles to fully unpack the definition of academic culture and its structure
Geographic	Any location	None	Due to the global nature of the concept of academic culture

1. Name of the corresponding author.
2. Country of the corresponding author.
3. Year of publication, selecting the most recent date stated.
4. Publication type
5. Name of the journal/ book in which the study was published.
6. Presence of a definition of an academic culture, coded 'no' in case of absence or included in full in case of presence, expressed both explicitly (e.g., "Academic culture is...") and implicitly.
7. Naming of the structural components of academic culture.
8. Commentary on the main focus in the study of academic culture.

Focused Data Extraction

The data extraction was specifically narrowed to sources that provided a definition of academic culture or described its structural components. Opinion pieces or definitions that merely referenced previous works published before 2018 were excluded. For sources meeting these criteria, we extracted text passages that presented a definition of academic culture or described its structural components. This extraction procedure was performed by one reviewer and

subsequently verified by a second reviewer. Discrepancies or disagreements encountered during the extraction were resolved by reaching a consensus. In cases where an empirically-based definition of academic culture or its structural components was mentioned multiple times within a source, we selected only one representative excerpt to prevent redundancy.

Goal of Extraction Process

This rigorous and meticulous data extraction process was designed to selectively pinpoint and recognize particular, empirically-based definitions of academic culture. This approach contributes to a more refined and detailed comprehension of its essence and architecture.

Data Analysis

Combined Quantitative and Qualitative Methods

The data analysis employed both quantitative (i.e., frequencies and percentages) and qualitative (i.e., thematic analysis) approaches.

Table 2*Key Information Extracted from the Sources*

Publication details	Article 1	Article 2	Article 3
Study title	Employee experience through academic culture emerges as a strongest predictor of overall performance of higher education institutes	Challenges and obstacles of academic culture in institutionalising quality culture in higher education: A Grounded Theory study	Academic integrity in the Muslim world: a conceptual map of challenges of culture
Corresponding author	Pandita A.	Chassabi chorsi M.	Akbar A.
Year of publication	2020	2022	2020
Publication type	Original research	Original research	Integrated literature review
Name of the journal/ book	Journal of Medical Education Development	Journal of Public Affairs	International Journal for Educational Integ
Origin / Country of origin	India	Iran	Indonesia
Purpose of the research	To examine the role of critical success factors for sustainability in the quality of Higher Education Institutes in India	To provide a correct understanding of the challenges and obstacles of academic culture for the beneficiaries	To trigger discussion among policy makers and implementers to address challenges of preserving academic integrity from the perspective of culture
Definition of academic culture	Academic culture is the base for quality teaching and education delivery. Standard academic culture is supposed to be achieved through curriculum harmonisation. Curriculum requires to be internationally attuned and matching the expectation of students one hand and developing a conducive environment for implementing the changes on the other hand; a critical pathway to reach the performance peak	Academic culture is an independent subculture with its special characteristics in the process of scientific development and performance of the higher education system; a set of beliefs, relationships, tendencies, values, and common affairs that the faculty members, administrators, and other university employees do to improve and ensure the quality of the university's activities	Academic culture is an intellectual and ethical system of values, motivations, beliefs and perceptions
Academic culture structure	Academic culture envelops academic environment and academic operations and covers the broad indicator, that is, teaching and learning environment. "Student experience" covering student engagement, learning assessment, and student satisfaction links to indicators, that is, experiential and research-based studies and international outlook. Employee experience on the other hand covering employee involvement and employee attraction directly influences research and its quality as well as reputation	The academic culture of universities mainly includes academic outlooks, academic spirits, academic ethics, and academic environments; its components are categorised into ten subjects, namely academic independence, academic freedom, professional ethics, management, communication, participation, and teamwork, learning culture, trust between members, reward system, and evaluation system	No
The main focus of the research	Generation of favourable academic culture in universities	Improvement of the quality of academic culture and to enhance its value in the society it is essential to spread and institutionalise quality culture	A synthesis of the literature related to academic integrity and culture in regions where Muslims are the majority
Outcomes	Ideal academic culture helps the organisation to attain a capacity to create its future where student-centred learning will make students more autonomous. Students will become drivers of solutions rather than learners of problems. Employee experience leading to employee attractiveness and branding of the HEIs	According to most theorists, academic culture emerges from the social, political, economic, and cultural structures and relations of that society; as a result, each society forms its own academic culture	It is urgent to address academic integrity from the perspective of culture

Note. A complete data table can be provided by the authors upon request.

Generation of Structural Components List

Initially, the two reviewers responsible for data extraction collaboratively developed a list of potential structural components of academic culture.

Categorization of Extracted Statements

Each statement extracted from the included sources, describing a structural component of academic culture, was categorised according to the previously created list. New categories were added whenever a statement did not fit any existing category. Duplicate statements extracted from a single source were categorised only once. During this process, the specific wording of statements from the studies was not preserved in the categories and themes.

Thematic Analysis and Synthesis

Following the methodology of Galipeau et al. (2016), overlapping or duplicate categories were collated into themes. Two reviewers independently and inductively coded each statement related to the structural component of academic culture, collaboratively developing a coding framework through iterative discussions. The final themes and their definitions were established through a consensus between the reviewers. The data were then recorded with these agreed-upon categories, with any discrepancies resolved similarly. The themes were categorised into two types: structural components of academic culture and substructural components.

Deviations from Study Protocol

Demographic Characteristics Extraction

The extraction of demographic characteristics was conducted twice for accuracy, in line with the initial protocol that recommended a single reviewer's analysis, subject to subsequent confirmation.

RESULTS

Search Results and Demographic Characteristics

The search of bibliographical databases retrieved 9094 results; 8146 were left after restricted by the key words 'culture', 'higher education', 'research', 'academic research', 'universities', 'academic culture', 'academic performance', 'research ethics', 'professional development', 'academic writing', 'academic integrity', 'research culture', 'career', 'academic staff', 'organisational culture'. Search of the grey

literature databases retrieved 4 additional documents. See Figure 1 for record and sources flow during the review. The original search entailed 961 records. We excluded 68 records from initial screening because there were duplicates ($n = 46$), we could not access a full-text document ($n = 10$), or because they appeared to be irrelevant ($n = 12$).

We screened a total of 897 title and abstract records obtained from the search strategy. Only 148 were included for full-text screening. 649 records were excluded for not meeting our study inclusion criteria. After full-text screening of the 148 studies, 94 were determined to have full texts and to define academic culture and highlight its architecture. The remaining 54 records were excluded because: they did not have full texts ($n = 19$), were not about academic culture ($n = 30$), were published in a language other than English ($n = 5$). The 94 articles assessed for eligibility and included for demographic data extraction were published between 2018 and 2023 with corresponding authors from 45 countries. These articles were included into the research as they touched upon the concept of academic culture and its components to various extents. The number of publications mentioning academic culture increased each year from 2018 to 2022 (Table 3). The vast majority of these publications took the form of journal articles, book chapters, editorials and reviews.

Among the sources discussing academic culture, only 23 specifically related a study that provided some definitions on academic culture and its architecture. These studies were published between 2018 and 2023 and produced by corresponding authors from 24 countries. The majority of these included studies were journal articles (69.5 %). From the other sources ($n = 71$) included in the review, we extracted information about the structural components of academic culture implicitly.

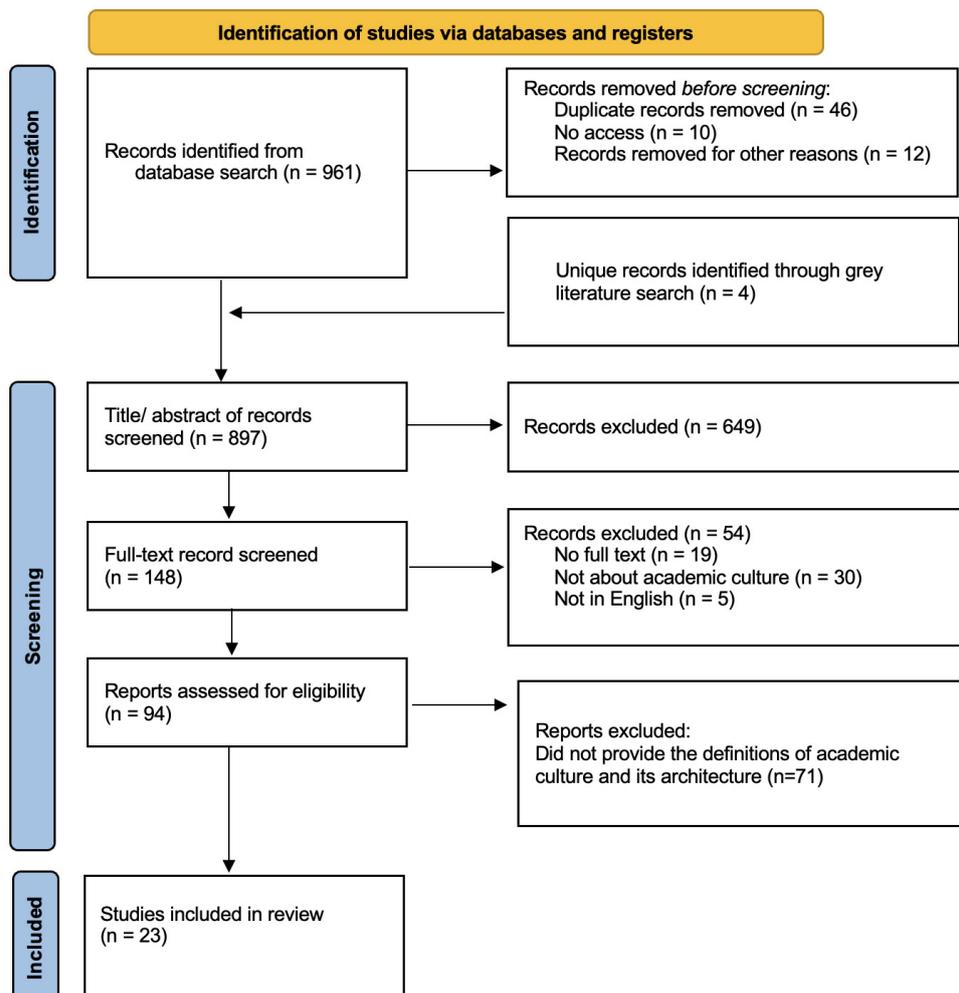
Four additional records obtained from the grey literature search were included into the study as they specified academic culture architecture and provided definitions.

Keywords Analysis

Using the software package VOSviewer, an analysis of key terms was conducted to assess the frequency of usage of a specific term in relation to another. The authors compiled a thesaurus of 760 terms to consolidate similar terms and correct typos in keywords. For constructing a scientometric map, only those keywords that appeared in the dataset at least four times were selected. As a result, the final selection of keywords comprises 35 terms. The visualisation of the results is presented in Figure 2, where the size of an object reflects its total link strength, and the width of the lines indicates the link strength between two terms.

Figure 1

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Flow Diagram



The constructed map highlights four clusters describing different aspects of the development of academic culture. The first cluster is dedicated to the structure and content of academic culture, the second to the educational component of academic culture, the third examines the influence of academic culture on the prospects of professional burn-out in researchers and the subsequent consequences for their mental health, and the fourth cluster is also related to the burnout of actors in academic culture, but from the perspective of researchers' stress resilience and characteristics of the academic culture of the university.

Academic Culture Definitions

The absence of a universal term that comprehensively describes the academic culture of a university has led to the existence of a range of competing definitions (Table 4). These definitions, to varying degrees, are synonymous but with a focus on certain structural components of academic culture.

The provided definitions of academic culture might be divided into those that emphasise its educational or research

component. At the same time, the studies from which definitions were extracted paid significant attention to the organisational culture of universities, indicating an inseparable link between the university's organisational culture and academic culture. Hence, the triad of organisational culture, educational culture, and research culture forms the fundamental basis of academic culture.

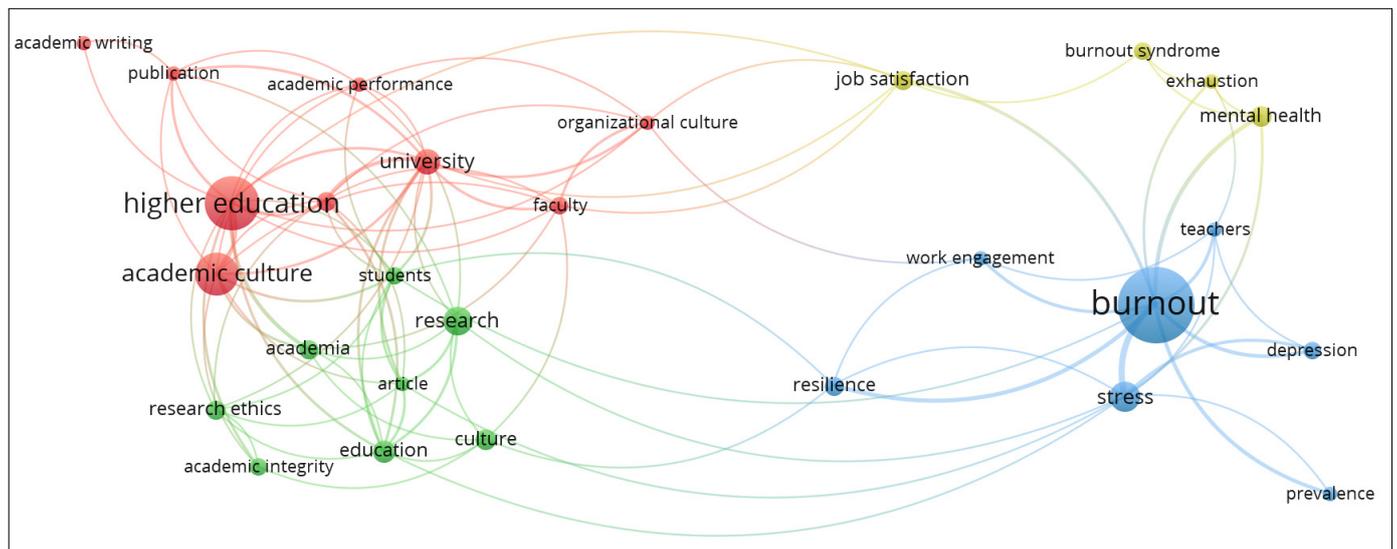
Academic Culture Architecture

Due to the lack of a consensus definition, the structure of academic culture appears quite diffuse, as various scholars define its architecture based on the key aspect of academic culture they emphasise. The main criterion for structuring academic culture is the phenomenon of culture itself. Chassabi Chorsi et al. (2022) include in the structure of academic culture such aspects as the degree of academic freedom, the strictness or flexibility of administrative bureaucracy and regulations, management, and the organisational culture, along with authority delegation. Some scholars hold a similar view, considering components like academic independence, academic freedom, professional ethics, management,

Table 3
Demographic Characteristics of Sources Mentioning Academic Culture and Its Structure

	Sources mentioning academic culture (n=94)	Sources used for unpacking definitions of academic culture and its structure (n=23)
Nationality of corresponding authors (top 3)	USA, UK, Indonesia	USA, Iran, Indonesia
Publication year	2018 - 6 2019 - 14 2020-17 2021 - 13 2022 - 25 2023 - 19	2018 - 2 2019 - 2 2020 - 3 2021 - 2 2022 - 5 2023 - 1
Source type	Journal article 82 Book chapter 7 Editorial 2 Review 3	Journal article 16 Book chapter 5 Editorial 0 Review 2

Figure 2
Bibliometric Map of Publications in the Subject Area “Academic Culture” (Tools: VOSviewer, Method: Keyword co-occurrence)



communication, participation, teamwork, learning culture, trust between members, reward system, and evaluation system as integral parts of academic culture (Zaslavskaya et al., 2019; Yang, 2019; Tierney, 2020; Woodman & Pringle, 2022; Karabchuk et al., 2022). Pandita & Kiran (2022) believe that the academic culture of universities primarily encompasses academic outlooks, spirits, ethics, and environments. According to Jiang et al. (2023), academic culture consists of domain knowledge and the know-how of conducting all academic activities. Chervonska & Pashchenko (2022) point out

that the key component of the learning academic culture is academic integrity, which should observe five core values in the learning process: honesty, trust, respect, fairness, responsibility, and integrity. Moreover, academic culture includes academic environment and operations, as well as the teaching and learning environment.

The data on the architecture of academic culture, drawn from the sources cited in the review and both explicitly and implicitly stated, is organised in Table 5.

The commentary by the authors on a specific structural aspect of academic culture helped us to discern that its three main structural components (organisational culture, learning culture, and research culture) comprise substructural components that are synonymous in name. However, their content is clearly and specifically defined varying significantly from component to component. For instance, 'academic excellence' in organisational culture is manifested through university achievements, its position in university rankings, whereas 'academic performance' in learning culture implies proficiency in lecturing, methodological work, and individual work with students. In the context of research culture, 'academic performance' is conveyed through scientific leadership in research, laboratory studies, etc.

Focuses in Research on the Academic Culture

Organisational Culture and Organisational Climate

Every educational institution or organisation encompasses its unique structure, management, and culture. In academic and research organisations, the internal culture is a critical element that influences research integrity and the respon-

sible conduct of research (Roje, 2023). Factors such as institutional practices or guidelines, management styles, the research environment, and collaborative dynamics play a significant role. They establish the boundaries of action for researchers and serve as a communal compass, fostering an environment that reinforces integrity through clear policies, reasonable standards for advancement and education, and a supportive work environment conducive to research integrity. Thus, reinforcing the organisational culture is essential for the successful educational and research trajectory of any higher education institution. Despite the clear importance of organisational culture, researchers often find it challenging to distinctly differentiate between the concepts of 'organisational culture' and 'organisational climate'.

Researchers frequently use these terms interchangeably, which can lead to a misrepresentation of the relationships between a culture of an organisation and its climate, its architecture, and its impact on its members. Organisational climate, defined by researchers as the shared perceptions of policies, practices, and procedures experienced by employees, and the behaviours seen as rewarding (Viđak et al.,

Table 4

Definitions of Academic Culture

Source	Reference
Chervonska, & Pashchenko (2022)	Academic culture is a set of values, norms, rules, motivations and beliefs that determine the methods of pedagogical and professional activity in education and science.
Cutri et al. (2021)	Academic culture establishes traditions and norms of conducting scientific research and recording its results (professional identification of the problem, formulation of the hypothesis, conducting research, analysis of the data obtained, confirmation or refutation of the hypothesis).
Çelik & Lancaster (2021)	Academic culture is a system of values, norms, rules, patterns of behaviour, modes of activity, principles of communication based on pedagogically adapted experience of scientific and cognitive activity.
Akbar & Picard (2020)	Academic culture is an intellectual and ethical system of values, motivations, beliefs and perceptions. They define professional activity in the field of education and science as "a set of ways and methods of activity of the university community, their systematically integrated quality, reflecting the achieved level of development".
Bautista et al. (2022)	Academic culture is an intellectual and ethical system of values, motivations, beliefs and ideas that guide professional activity in education and science.
Chassabi chorsi et al (2022)	Academic culture is an independent subculture with its special characteristics in the process of scientific development and performance of the higher education system; a set of beliefs, relationships, tendencies, values, and common affairs that the faculty members, administrators, and other university employees do to improve and ensure the quality of the university's activities.
Leithwood & Sun (2018)	Academic culture is a generalised latent variable composed of academic press (AP), disciplinary climate (DC), and teachers' use of instructional time.
Pandita & Kiran (2020)	Academic culture is the base for quality teaching and education delivery. Standard academic culture is supposed to be achieved through curriculum harmonisation. Curriculum requires to be internationally attuned and matching the expectation of students on one hand and developing a conducive environment for implementing the changes on the other hand; a critical pathway to reach the performance peak.
Yang, 2019	Academic culture represents a distinct climate within academic institutions, such as universities or research institutes. The term 'academic culture' can be understood as representing the culture of a specific academic discipline, such as the field of medical science or the norms, values, and cues embedded among sociologists. Professors and students oftentimes represent an institution as the primary actors of academic culture.

Table 5*Academic Culture Architecture*

Organisational Culture	Learning Culture	Research Culture
Core values, norms and traditions	Core values, norms and traditions	Core values, norms and traditions
Academic freedom	Academic independence	Academic independence
Academic environment	Academic environment	Research environment
Organisational climate	Academic climate	Academic climate
Academic excellence	Academic performance	Academic performance
University capacity and productivity	Academic capacity and productivity	Research capacity and Productivity
Academic communication	Academic communication	Academic communication
Academic management and reward system	Self management	Self management
Academic development and career opportunities	Academic development and status	Academic development, status and career opportunities
University collaborations	University collaborations	Research collaboration and data sharing
Professional ethics	Academic integrity	Research ethics
Academic resilience	Academic resilience	Academic resilience
Academic Equity	Academic Equity	Academic Equity
Professional literacy	Academic literacy (academic writing, critical thinking skills)	Academic literacy (digital competencies, research skills and scholarly writing)
Knowledge Construction Management	Knowledge construction (learning technologies)	Knowledge construction

2021; Armond & Kakuk, 2022), acts as a mechanism defining the characteristics of the policy of an organisation.

Equality, Diversity and Inclusion: Equal Opportunities?

Knowledge is a socially distributed phenomenon, situated at the intersection of individual cognitive processes and their operational environments. The creation of knowledge hinges on the interactions between an individual's cognitive schemas and their external contexts. This intersection is further shaped by the use of artefacts within one's background, which guide and mould individual actions (Gomes et al., 2018; Iannaccone et al., 2018; Köse & Korkmaz, 2019). These actions are not standalone; they are intimately woven into the fabric of others' actions within institutional settings that regulate both activities and the dynamics of their interrelationships. Thus, knowledge emerges from a confluence of individual meaning-making processes and the ability to communicate and share these construed meanings, encompassing beliefs, values, and activities (Gomes et al., 2018; Leite et al., 2018; Briody, 2022). In this milieu, the concept of organisational culture of a university and its climate becomes paramount, either fostering or impeding the growth

and evolution of its culture. The climate is largely influenced by the backgrounds of the actors in scientific research and educational communication, including their current and future competencies. It's vital to understand that the development level of both organisational and academic cultures significantly impacts the advancement of researchers' competencies.

The diversity within the research environment is shaped not only by the challenges encountered by early-career researchers in the intricate hierarchy of academic relationships but also by factors such as gender, and the interplay of religious and other cultural codes with the realities of organisational and academic cultures (Yang, 2019). These factors heavily influence the prioritisation within the hierarchy of various structural components of academic culture. For instance, the global aspect of academic integrity and research ethics might take a backseat compared to culturally conditioned norms, such as in situations where the order of authorship in scholarly publications is influenced by deference to seniors or adherence to leadership, thus overshadowing globally recognized research ethics standards (Raitskaya & Tikhonova, 2020). The concept of unconscious bias might

shed light on the persistence of societal inequities, even in the presence of laws designed to ensure equal opportunities (Tierney & Lanford, 2018; Tierney, 2020).

The notion that higher education institutions are increasingly characterised by a culture of competitiveness, linked to hegemonic masculinity, is gaining traction. This competitiveness highlights the crucial necessity of embracing the ideal of 'belonging', crucial for both success and survival. The hegemonic academic figure is marked by attributes defined by gender, race, and class, with ideal identities expressed and interpreted through proxy indicators, and then communicated through the curation and promotion of an acceptable persona. Therefore, feelings of belonging and legitimacy are mutable, subject to changes in both the academic environment and the individual (Wren Butler, 2022). Academic optimism is increasingly recognized by researchers as a means to overcome the heterogeneity of the academic environment in higher education institutions and as a catalyst for the successful development of higher education in all its aspects (Scott et al., 2023).

Sustainable Research Culture as an Integral Part of Academic Culture

Research culture consists of a collective set of values and essential beliefs regarding research (Falk et al., 2019). Researchers distinguish a 'positive' research culture, emphasising constructive behaviour, collaboration, and openness. On the other hand, they identify a 'negative' research culture, based on excessive competition and insufficient transparency, which may suppress creativity and, ultimately, obstruct scientific progress.

The Responsible Research and Innovation (RRI) framework steers collective efforts towards achieving ethical, sustainable, and socially advantageous research and innovation. This policy approach in science aims to engage a broad spectrum of participants, including academic and industrial sectors, the public, policymakers, and professionals in science, to integrate and refine best practices in line with societal needs and aspirations (AI-Youbi & Zahed, 2020; Canti et al., 2021). This initiative reaches beyond mere scientific involvement to include a wide range of stakeholders like comprehensive research entities, educational organisations, ethics committees, legislative groups, and the general public. The synergy among these groups highlights the importance of communication in this interconnected network. Promoting awareness about the critical role of the translational process in the innovation chain can further motivate collaborative endeavours among these stakeholders. From a policy standpoint, successful translation and market realisation of publicly funded research not only generate socio-economic benefits that mirror the original discoveries (Hishan et al., 2020; Karabchuk et al., 2022) but also validate and encourage ongoing research investments, benefiting both the scientific community and researchers. Crucially, the public

benefits from the resultant new treatments, medicines, and technological advances, born from focused funding and efforts (Koz & Lokey-Vega, 2022). Additionally, this model of mutual collaboration gains valuable contributions from external bodies like international research institutes (Kim & Nah, 2018), enhancing the overall process.

Research Integrity and Productivity

Factors influencing the productivity of researchers within higher education institutions are being meticulously studied (Karabchuk et al., 2022). These factors include not only the expectations of the administration, the ambitions of universities to achieve top positions in rankings and become leaders in their fields (AI-Youbi & Zahed, 2020; Karabchuk et al., 2022), but also the specific culture of higher education institutions (Uwizeye et al., 2022). A particular focus is given to the so-called 'culture shock' experienced by researchers when interacting with non-academic environments (Skakni & McAlpine, 2022). The culture of a university, characterised by a clear hierarchy and prolonged decision-making periods requiring collegiality and justification, faces significant challenges when interacting with the real world of business and market relations. This is due to the need for quick decision-making, often at an individual level, taking risks, and committing to specific courses of action without extensive deliberation and justification (Tierney & Lanford, 2018). Once again, individual competencies of researchers receive special attention, the development of which is not only their personal responsibility but also requires institutional support from the organisation. The effectiveness and intensity of this support are determined by the organisational culture of each specific higher education institution (Armond & Kakuk, 2022; Tikhonova & Raitskaya, 2022).

Sustainable Learning Culture as an Integral Part of Academic Culture

Quality management in higher education now integrates knowledge management and is aligned with competency-based approaches (Tierney & Lanford, 2018). The learning culture of a university should evolve from being controlling to fostering a learning-centric environment. The focus of the disciplines studied revolves around understanding cognitive processes, desires, and interpersonal relations, all within an educational setting that encompasses organisational, research, and learning dimensions. Higher Education Institutions (HEIs) gain the ability to shape their future through embracing learning and adhering to the norms of academic culture (Pandita & Kiran, 2022).

The development of a sustainable learning culture is gaining significant importance, particularly one that builds upon the collaboration between academia and industry in science and technology-based innovation. This collaboration, pivotal for global problem-solving, highlights the role of universities and companies in sharing responsibilities,

with a focus on human resource development. The pursuit of optimal scientific and practical solutions to these global challenges necessitates reinforced cooperation among universities, research institutions, civil societies, and industrial sectors. This collaboration aims to enhance knowledge levels, technological advancement, practical skills, and productive attitudes within the population. In essence, it seeks to augment the supply of human intellectual capital and improve the efficiency of existing resources (AI-Youbi & Zahed, 2020; Karabchuk et al., 2022). The ability of the higher education system to maintain its effectiveness in challenging situations (such as a pandemic or an unexpected shift in labour market and production priorities) becomes crucial. This requires reliance on a well-developed academic culture and active collaboration between key stakeholders (society, industry, university) (Canti et al., 2021).

To foster a positive academic culture in universities, it is essential to restructure the balance between formal and informal learning processes. Higher Education Institutions (HEIs) that underestimate the value of informal learning miss out on a crucial resource for overcoming intense competition. HEIs are increasingly establishing support centres for teaching and research, which devise innovative strategies to tackle the challenges faced by higher education institutions. For cultivating a high-quality academic culture, these centres play a pivotal role in integrating digital technologies (ICTs) and artificial intelligence into learning and teaching processes. The interaction between management and research is another area where these centres can make a significant impact. However, it is important to acknowledge that technology alone cannot drive innovation. Instead, institutions should focus on nurturing students as independent learners who can effectively apply their acquired knowledge. The goal is to create an environment where change is not viewed as an obstacle but as an opportunity that enhances the learning experience (Pandita & Kiran, 2022).

Academic Culture Models

Cultural models are regarded as the collective ability of a group or community to shape a symbolic dimension around an object or symbol at a certain historical juncture (Marsico, 2018). Such models should not, however, be interpreted as signifying uniformity in the knowledge and belief systems among individuals participating in the same activities within identical contexts. The inherent diversity within social settings and among individuals inherently challenges the notion of cultural models as simply uniform constructs of meaning. Each individual represents a myriad of subcultures, thereby enriching the diversity of cultural models. Acknowledging a spectrum of cultural models is more fitting than confining them to a single archetype, as individuals' construction and interpretation of reality are deeply tied to their unique viewpoints (Mellone et al., 2020). In professional settings, these cultural models guide social and organisational

behaviours and play a pivotal role in shaping identity (Marsico, 2018).

In her research, Mollo (2021) outlined four distinct models of academic culture:

- (1) **Shared Social Construction:** emphasises the role of the university in fostering relational and communicative practices, highlighting the interplay of teaching and student relationships in the academic profession. It views professional activity as a joint knowledge-building effort between professors and students, with scientific research being key to enhancing education. Also, it views scientific research as essential for enhancing teaching methods, thereby enriching student education.
- (2) **The Culture of Development:** prioritises research and scientific output in universities, aiming to generate knowledge primarily for research and secondarily for teaching. It views research as a driving force for scientific and cultural progress, central to both the university's and professors' roles. Professors in this paradigm are deeply engaged in research throughout their careers, embodying a dual identity of researcher and educator.
- (3) **Transmission of Cultural and Scientific Knowledge:** assigns universities and their professors the role of disseminating knowledge, practices, and skills to students and collaborators. It blends elements from both the Shared Social Construction and Culture of Development models, focusing on both knowledge building with students and research with workgroups. This model balances research and teaching, reconnecting them to the essence of scientific and cultural exchange.
- (4) **Training and Research System:** the university is viewed as a fusion of education and research. Professors within this framework value research but are primarily driven by the joy of teaching and developing students. Their professional identity is shaped by recognition in academia and their relationships with students, particularly when they feel their teaching positively impacts student development.

DISCUSSION

The purpose of this review was to elucidate the breadth and scope of the term 'academic culture' and to delineate the structure of academic culture. The results indicate a lack of consensus among researchers regarding this issue, despite the long history of the term. The definitions of academic culture we have accumulated show a tendency toward centralising its understanding. For instance, in the bibliographic review by Pedraja-Rejas et al. (2022), the descriptions of academic culture extracted from the studies included predominantly describe the culture of a higher education insti-

tution as an organisation. However, the logic of the studies we analysed leads to an understanding of academic culture as a complex phenomenon that includes research culture, organisational culture, and learning culture. Yet, this more centralised understanding is not axiomatic: some authors see the academic culture of a university more as a culture of learning than the triad of research culture, organisational culture, and learning culture discussed above (Akbar & Picard, 2020; Pandita & Kiran, 2022).

Harman (1989) broadly defines the concept of academic culture as the symbolic dimension of organisational life, encompassing the professional life and work of academics across different university contexts. In this interpretation, academic culture as a unified entity vanishes, giving way to a spectrum of distinct academic cultures, each characteristic of a particular university. This iteration of academic culture is described by several researchers (Tierney & Lanford, 2018; Zaslavskaya et al., 2019; Chassabi chorsi et al., 2022; Jiang et al., 2023) as a series of independently existing academic cultures. This perspective is certainly valid and has been influential for a long period, with leading universities setting the standards for the development of organisational culture, incorporating aspects of academic culture not only in their own countries but globally.

In light of the current shifts in the labour market and societal needs, evolving alongside the advancement of nanotechnologies and artificial intelligence, the interpretation of the academic culture of higher education institutions as a metaculture is increasingly substantiated. This perspective enables actors in the educational process globally to establish a transparent and effective educational paradigm rooted in the pursuit and construction of knowledge. This approach is further enhanced by research initiatives and the practical application of their outcomes. Transforming the research process into a leading tool for university development evidently transforms the perception of academic culture, placing expected emphases and strengthening those architectural blocks that are designed to ensure further successful development of each specific university and higher education in general. Undoubtedly, academic culture as a meta-concept will be ineffective without relying on the organisational culture of a specific higher education institution, determined, among other things, by its climate. However, global conventions inherent in the 'ideal' content of academic culture are capable of optimising both the educational and research components of university activities most effectively. Hence, the viewpoint of Chassabi Chorsi et al. (2022), suggesting that the academic culture of universities should be researched as an independent subculture with its special characteristics in the process of scientific development and performance of the higher education system, seems promising.

Any culture, including academic culture, involves the process of differentiation. It serves as a means of indicating not just belonging, but conversely, of indicating who or what is outside of a group. Culture signifies a shared system of meanings and values. The influence and relevance of these systems stem from their ability to delineate who is excluded. This approach continues to evolve through the lens of increasing social differentiation (gender aspects, minorities, young scientists, academic schools) and by highlighting various dimensions and models of academic culture. This review outlines four models of culture identified by Mollo (2021), each based on different balances of teaching and research activities among university faculty and their interactions with students. Integrating these models within a single university by individual actors of academic culture is highly complex. While it is feasible at the management level of academic culture across different university departments, it presents significant challenges at the level of individual practitioners.

For comparison, Harman (1989), building upon Clark's (1983) approach, delineated the levels of academic culture, encompassing a disciplinary field, a specific work place or enterprise, the broader academic profession, and the system of which it is a part. This structuring of academic culture highlights that the culture of an enterprise varies in form and intensity depending on the specific institution. A robust local culture nurtures loyalty and commitment, instilling a sense of belonging and drawing top talent. At the level of the academic profession, Harman (1989) identified commonly shared values and commitments to knowledge creation and dissemination, and to academic freedom, transcending disciplinary and national boundaries and symbolically uniting a diverse global community in higher learning and scholarship. Within specific disciplines, she observed that the various branches of learning, rooted in different epistemological traditions, provide unique cultural frameworks where specialists share beliefs about theories, intellectual styles, and problem-solving methods. This approach, in contrast to Mollo's (2021) models, indicates that each individual within an academic culture cannot embody a singular academic culture. Inevitably, they will combine 2-3 levels of academic culture.

The comparison between the approaches of Mollo (2021) and Harman (1989) reveals the multifaceted nature of defining the content of academic culture, the hierarchy of its components, and the various focuses of its perception. The principal internal complexity of the phenomenon of academic culture is equally evident. Spanning over a decade of research, both approaches concur on the symbiosis of teaching, research, and organisational culture as the foundation of academic culture. This is also evidenced by the primary research focuses identified in the reviewed articles. To

varying degrees, they touch upon the three aspects of the identified triad, demonstrating the interdependence of the three key components of academic culture.

Sources analysed in this review highlight the variety of components that contribute to the hierarchical structure of academic culture. However, there is a lack of uniformity in the structural components identified by different researchers, underscoring the need for a more standardised approach to its conceptualization. In this regard, the perspective of Chassabi Chorsi et al. (2022) gains special importance. They propose that academic environments encompass both 'hardware' and 'software' aspects. The 'hardware' environment includes tangible resources supporting academic research and activities, such as infrastructure, general and specialised equipment, research sites, informational resources, communication and exchange opportunities, essential living facilities, stable teaching and research spaces, and financial resources for research and collaboration. On the other hand, the 'software' environment encompasses the intangible aspects, particularly the academic culture rooted in the academic climate of the institution. This dual perspective encapsulates the physical and the cultural-psychological elements, offering a comprehensive view of the academic environment.

Once again, the interrelation of organisational culture, learning culture, and research culture emerges as a unified foundation of academic culture. The effective functioning of the 'hardware aspect' - encompassing the physical and structural elements of the academic environment - relies heavily on the presence of a robust organisational culture. Conversely, the 'software aspect', which involves the intangible elements such as values, beliefs, and intellectual approaches, is dependent on the thriving cultures of learning and research. Without these cultural aspects, the essential human and intellectual dimensions of academia cannot be fully realised or activated.

Limitations

In this study, only English-language sources were analysed, which may limit the opportunities for conceptualising existing approaches to defining and structuring academic culture.

As many authors use the terms 'organisational culture' and 'academic culture' interchangeably, the authors of this review had to carefully weigh and analyse the information presented in the sources in order to transparently differentiate the scope of these concepts without contradicting the interpretations given by the authors of the analysed studies.

The overall structure of academic culture presented by the authors, built both on the explicit and implicit extraction of information, requires further clarification and specification in terms of the three main components included, as well as

in terms of synchronising their subcomponents considering their content difference specified by the exact component of the analysed triad.

CONCLUSION

The purpose of this review was to trace the transformation in the definition and structural components of academic culture. Despite the variety of approaches to its definition, there is a common recognition of its impact both at the level of its actors and at an organisational level. Academic culture encompasses not only educational and research components but also includes crucial aspects such as organisational structure, the climate within educational institutions, and the interaction between personal and professional qualities of participants in the educational process. The study of academic culture has revealed that cultural models in the educational environment are not homogeneous and can vary depending on a multitude of factors, including gender characteristics, cultural codes, and historical contexts. This underscores the need for an individualised approach to understanding academic culture in various higher education institutions.

A key point is the recognition that academic culture is a dynamic and continually evolving system. It requires the active participation of all stakeholders in its formation and support. The interaction between researchers, students, and administrative staff plays a central role in creating an environment that fosters integration, knowledge exchange, and overall development. Defining and understanding academic culture necessitates considering a wide range of its aspects, not only structural components but also the dynamics of interactions within the academic community.

Further research should focus on formulating a unified definition of academic culture and constructing its balanced and hierarchically organised architecture. A particular emphasis should be placed on understanding academic culture as a metaculture, to clarify the levels distinguished within academic culture.

DECLARATION OF COMPETING INTEREST

None declared.

AUTHORS' CONTRIBUTION

Elena Tikhonova: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Resources; Supervision; Writing – original draft; Writing – review & editing.

Marina Kosycheva: Data curation; Formal analysis; Resources; Writing – original draft; Writing – review & editing. **Petr Kasatkin:** Data curation; Investigation; Methodology; Resources; Writing – original draft; Writing – review & editing.

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