

Identification of Factors Related to the Research Vitality of Faculty Members in Medical Universities: A Scoping Review

Abstract

Background: Vitality, as a key component of mental wellbeing, is considered essential within research systems and academic institutions. This study aims to identify the factors associated with the research vitality of faculty members at medical universities. **Materials and Methods:** This scoping review was conducted in 2024 following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. Between April and August 2024, a comprehensive search was performed across databases including PubMed, Embase, Scopus, Web of Science, and ProQuest (based on MeSH), as well as the Persian databases such as Magiran, Noormags, and the Scientific Information Database. A total of 1998 studies were initially retrieved. After removing duplicates and screening the records, 27 studies were ultimately selected for inclusion. The extracted data were summarized, synthesized, and categorized based on the study objectives. **Results:** The findings were organized into four main categories, ten subcategories, and 66 codes. The main categories included individual factors (e.g., personality traits and professional characteristics), organizational factors (e.g., management style, regulations, and facilities), professional factors (e.g., nature and importance of research), and environmental factors (e.g., interaction and collaboration, rewards and recognition, and institutional values). **Conclusions:** Policymakers and academic administrators should prioritize enhancing the key factors that influence research vitality across individual, organizational, professional, and environmental domains. Addressing these dimensions can foster greater motivation, creativity, and productivity, among faculty members, ultimately contributing to the improvement of research quality in medical universities.

Keywords: Academic vitality, faculty members, organizational culture, research productivity, research vitality, work engagement

Introduction

Conducting health research is essential for developing evidence-based policies. This importance was underscored since 3 decades ago when the 1990 Commission on Health Research for Development emphasized that strengthening research capacity in low- and middle-income countries is one of the most powerful, cost-effective, and sustainable strategies for advancing health and development. The World Health Organization (WHO) advocates that all countries should serve not only as consumers but also as producers and users of research.^[1] Universities, as the primary centers of education and research, play a pivotal role in guiding societies toward social, economic, and cultural progress. Faculty members in the health sector are particularly essential in shaping

the future of healthcare systems.^[1,2] The role of the university, therefore, functions both as a process indicator reflecting a society's current state of development and as a predictive index for its future advancement. Achieving this dual role requires that universities align their human resources with institutional goals while ensuring both organizational and individual wellbeing.^[2]

In this context, vibrant and motivated faculty members—who serve as the driving force behind knowledge production in the health sciences—contribute significantly to overcoming negative perceptions, fostering better interpersonal and social relationships, and enhancing self-confidence. As a result, they take on greater responsibility in educational and research tasks, experience improved academic quality of life, and contribute more effectively to university

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performance.^[3-9] Vitality, a key element of mental wellbeing, has received considerable attention within academic and research systems. Wellbeing is generally conceptualized as comprising three dimensions: vitality, happiness, and purposefulness. Due to its significant impact on various aspects of human functioning—especially mental health—vitality and psychological flourishing have been focal points for researchers.^[6,7,10,11] Individuals with high vitality are often characterized by their creativity and innovation within academic and social settings. They maintain consistent productivity in education, research, and professional service, distinguishing themselves from their peers through sustained engagement and performance.^[8,9,12,13]

However, several studies have identified a lack of motivation and interest in research among faculty members, with many perceiving research as tedious—factors that hinder the production of high-quality research within universities.^[9,10,14-16] Moreover, most previous frameworks have examined individual or organizational factors in isolation, paying limited attention to their dynamic interaction within a comprehensive model. Additionally, much of the existing literature has focused primarily on research productivity, often overlooking the broader and more nuanced concept of research vitality, which encompasses motivation, creativity, and scientific dynamism. The current study adopts a more holistic approach by identifying and analyzing individual, professional, organizational, and environmental factors simultaneously, thereby offering a new conceptual framework for understanding and evaluating research vitality. Furthermore, it emphasizes the significance of psychological and professional factors—dimensions that have received comparatively little attention in prior studies. Identifying the determinants of research vitality can inform health policymakers by providing targeted mechanisms to enhance faculty engagement and research quality. This is particularly important as faculty members constitute the core of knowledge production in the health sector. Accordingly, the present study was undertaken to identify the key factors associated with the research vitality of faculty members at medical universities.

Materials and Methods

This study is a scoping review designed to identify the scope and extent of factors related to research vitality of faculty members at medical universities. The study was carried out between April and August 2024. The review was conducted based on the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).^[17] In a scoping review, a comprehensive examination of literature within a particular field is undertaken.^[18,19] The aim of a scoping review is not to produce a critically appraised and synthesized answer to a specific question but rather to provide an overview or mapping of the available evidence. Consequently, an

assessment of methodological limitations or risk of bias is generally not conducted in scoping reviews.^[20]

Searches were performed in several international databases, including PubMed, Web of Science (WOS), Scopus, Embase, ProQuest, and Google Scholar, as well as Persian-language databases such as Magiran, Noormags, and the Scientific Information Database (SID). In addition to the database searches, the reference lists of selected articles were manually reviewed to identify additional relevant studies. Keywords and their synonyms were identified through MeSH terms, the Embase thesaurus, existing literature, and expert consultation. Boolean operators (AND/OR) were employed to construct comprehensive search strategies. The following keywords were used in the search process:

“Research Vitality, Faculty Member, Academic Vitality, Career Vitality, Job Vitality, Education Vitality”, and “Maintaining Vitality”. General search strategies were adapted for each database [Table 1], and the search strategy for PubMed, as an example, was as follows:

((“research vitality”[Title/Abstract] OR “academic vitality”[Title/Abstract] OR “Faculty vitality”[Title/Abstract]) OR “Job vitality”[Title/Abstract]) OR “Career Vitality” OR “Education Vitality” OR “Maintaining Vitality” AND ((“academic staff”[Title/Abstract] OR “faculty members”[Title/Abstract])) [Table 2].

The inclusion criteria consisted of all types of information sources related to the research objectives, with no publication date restrictions, and published in either English or Persian. Exclusion criteria included irrelevant information sources, articles without full-text availability, and non-research publications such as reviews, working papers, commentaries, and editorials.

From the initial search, 1998 sources were identified. After removing duplicates using EndNote software (version 9), 1852 studies remained. Screening was conducted in two stages according to the inclusion and exclusion criteria. In the first stage, titles and abstracts were reviewed, resulting in the selection of 63 studies. In the second stage, full texts were assessed, and 36 studies were excluded due to inconsistency with the study objectives, leaving 27 studies for final inclusion. Among these, 24 were in English and 3 in Persian.

Next, data extraction was performed. The selected studies were reviewed thoroughly, and relevant data were extracted based on recurring and prominent themes. These themes represented factors associated with the research vitality of faculty members. The extracted data were then categorized according to thematic similarities and conceptual relationships. The selection and extraction process was carried out independently by two researchers (M.S, P.R). Any disagreements were resolved through discussion, and when consensus could not be reached, a third reviewer

(M.A.) was consulted. The PRISMA flow diagram was used to illustrate the process of article identification, screening, inclusion, and exclusion [Figure 1]. Bibliographic data—including the first author's name, year of publication, research method, target population, and key findings—were extracted and are presented in Table 1. The collected information was categorized, summarized, and synthesized in alignment with the research objectives.

Ethical considerations

This study was approved by the Ethics Committee of Isfahan University of Medical Sciences (Approval ID: IR.MUI.NUREMA.REC.1402.024). This manuscript is free from plagiarism. All authors affirm that they have adhered to the established ethical standards for conducting scholarly research and that the study was conducted with integrity, fidelity, and honesty.

Results

As presented in Table 3, the analysis of the selected studies led to the identification of four main themes, ten subthemes, and 66 extracted codes related to research vitality. These main themes reflect the multifaceted nature of research vitality and include individual, organizational, professional, and environmental factors. Each theme is further divided into subthemes that provide a more detailed understanding of the contributing elements.

Individual factors include components such as personal motivation, creativity, and research skills.

Organizational factors highlight the significance of institutional support, access to financial resources, and availability of research infrastructure. Professional factors include aspects such as academic collaboration, mentorship opportunities, and professional development. Environmental factors refer to broader influences, including

cultural values, societal expectations, and systemic support for research activity.

The bibliometric analysis revealed that the earliest studies were published in 1985, while the most recent were conducted in 2022 and 2023. The majority of the studies were carried out in the United States and Iran, as illustrated in Figure 2.

Discussion

This study provides a comprehensive framework for understanding the factors that influence research vitality among faculty members in medical universities. By identifying individual, organizational, professional, and environmental dimensions, the findings highlight the multifaceted nature of research vitality and its critical role in fostering knowledge production in the health sector.

The statistical analysis of the reviewed studies indicates that research on this topic began in 1985, with the most recent studies conducted in 2022 and 2023. Most of the included studies were carried out in the United States and Iran [Figure 2].

According to the findings, individual factors such as personality traits and professional competencies play a crucial role in enhancing the research vitality of faculty members. In this regard, Houston^[10] describes vitality as a renewable resource that strengthens self-confidence, while Olga^[4] highlights its positive effects on both physical and mental performance, including enhanced self-confidence. The study by Dankoski *et al.*^[3] further identifies research vitality as an indicator of productivity, professional engagement, and job satisfaction. Similarly, Pololi *et al.*^[15] and Taherian *et al.*^[2] emphasize that individual factors—including motivation, job commitment, and personal traits such as self-confidence and self-efficacy—significantly contribute to strengthening research vitality.

Furthermore, the findings suggest that individual capabilities and social interactions are crucial for sustaining and enhancing research vitality. Therefore, fostering

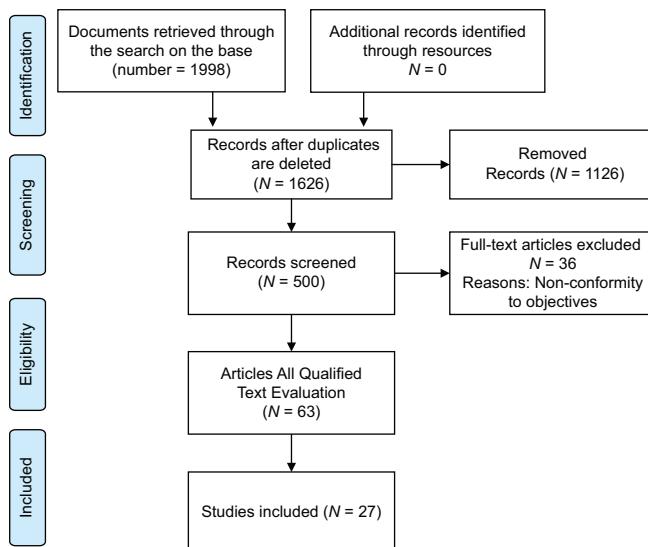


Figure 1: PRISMA flowchart for process resource check

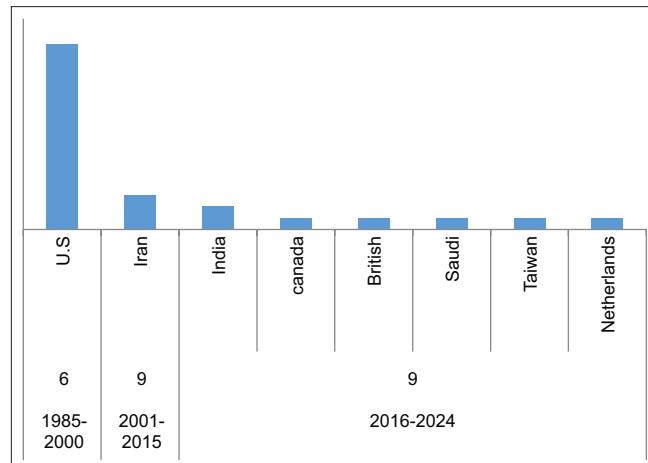


Figure 2: The frequency of studies based on the year and country of study

Table 1: Specifications of the studies reviewed in the research

Title	Author	Year	Country	Study design	Study sample
Faculty Vitality Beyond the Research University	Roger G. Baldwin	1990	U.S	Qualitative study	Faculty member
Research vitality as sustained excellence: what keeps the plates spinning?	Gilstrap, J. B.	2011	U.S	Qualitative study	Faculty members
Faculty vitality in the comprehensive university: Changing context and concerns	Chan, S.S., Burton, J.	1995	U.S	surveys	Faculty Members
The concept of vitality. Review of the vitality-related research domain	Olga Lavrusheva	2020	Netherlands	Quantitative	Scoping review
LIFE: an integrated view of meta organizational process for vitality	Bishwas, Suman	2016	India	Regression Analysis	
An investigation of factors that influence faculty vitality at a large, public, research university	Kalivoda, Patricia	1993	U.S	Qualitative study	Outstanding academics
The concept of faculty vitality in the Canadian Bible College	Pullman, Ellery Gene	1998	Canada	exploratory study	Colleges in the province of Alberta
Conceptualizing vitality at work: bridging the gap between individual and organizational health	Malik, Sania Zahra	2015	British	Questionnaire Data	Academics working in top-ranking universities
An expanded model of faculty vitality in academic medicine	Dankoski, M. E.	2012	India	online survey	Faculty members
Expanding the discussion of faculty vitality to include productive but disengaged senior faculty	Huston, T. A.	2007	U.S	Qualitative research approach	Women Faculty in Higher Education
Bloody but unbowed: An exploration of faculty vitality in "the people's college	Taylor, Kimberly W.	2007	U.S	mixed method	Faculty Member
Faculty vitality given retrenchment: A policy analysis	Edward A. Bruss	1981	U.S	simulation model designed	Faculty Member
Faculty vitality in osteopathic medical schools: A pilot study	Adrienne Z Ables.	2018	U.S	A pilot study	Faculty Members
Enhancing faculty vitality and institutional commitment: smart leadership in difficult times	Lieberman, D	2011	Britannia	Book chapter	Faculty Members
Faculty Vitality-Surviving the Challenges Facing Academic Health Centers: A National Survey of Medical Faculty	Pololi, L. H.	2015	U.S	Random sample	Academic staff member
Maintaining faculty vitality	Altshuler, Thelma C	1985	Florida U.S	Mixed-methods	Nationally Representative U.S
One school's strategy to assess and improve the vitality of its faculty	Carole J Bland	2002	Minnesota U.S	survey	Faculty members
Vitality in the Academic Workplace: Sustaining Professional Growth for Mid-Career Faculty	Anne M. DeFelippo	2022	Massachusetts U.S	online survey	Faculty Number
Resident Vitality in 34 Programs at 14 Academic Health Systems: Insights for Educating Physicians and Surgeons for the Future	Linda H. Pololi	2018	U.S	Survey	Residents
Academic Leadership Styles and Faculty Members' Job Satisfaction at the King Saud University	Alquhaiz, Khalid Z.	2020	Saudi Arabia	Qualitative	Faculty members
Career Vitality: Perceptions from Women Faculty in Health Professions	Elizabeth Unni	2022	U.S	A two-round Delphi method	Women faculty
An Integrated Process Model of Communication Satisfaction and Organizational Outcomes	Tsai, Ming-Ten; (2009).	Taiwan		Questionnaire	500 service industries in Taiwan
Provide a Three Dimensional Framework of Organizational Vitality	Mohammadbagher Faghish	2021	Iran	Meta synthesis	29 Articles
Investigating the relationship between organizational climate and happiness and vitality among faculty members of Al-Zahra University	Waziri , M	2010	Iran	Mixed Method	faculty members and undergraduate and graduate students
Management and organizational factors affecting happiness in universities and their impact on science production	Taherian Hossein,	2013	Iran	Survey	faculty member

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Table 1: Contd...

Title	Author	Year	Country	Study design	Study sample
Nurturing faculty vitality by matching institutional interventions with career-stage needs	Kalivoda, Patricia Sorrell	1994	U.S	Qualitative	Faculty member
Faculty Vitality in Schools and Colleges of Optometry: A Mixed Methods Study	Hobbs, Brianne Nicole	2023	U.S	Qualitative	Faculty member

Table 2: Search strategies in databases

Database	Search strategy
PubMed	((“research vitality”[Title/Abstract] OR “academic vitality”[Title/Abstract] OR “Faculty vitality”[Title/Abstract]) OR “Job vitality”[Title/Abstract]) OR “Career Vitality” OR “Education Vitality” OR “Maintaining Vitality” AND (“academic staff”[Title/Abstract] OR “faculty members”[Title/Abstract]))
Scopus	(TITLE-ABS-KEY(“research vitality” OR “academic vitality” OR “faculty vitality” OR “Job* vitality” OR “Career Vitality” OR “Education Vitality” OR “Maintaining Vitality”) AND TITLE-ABS-KEY OR “academic staff” OR “faculty members”))
Web of Science	(TS=(“research vitality” OR “academic vitality” OR “faculty vitality” OR “Job vitality” OR “Career Vitality” OR “Education Vitality” OR “Maintaining Vitality”) AND TS=(“academic staff” OR “faculty members”))
Embase	(‘research vitality’ OR ‘academic vitality’ OR ‘faculty vitality’ OR ‘Job vitality’ OR ‘Career Vitality’ OR ‘Education Vitality’ OR ‘Maintaining Vitality’) AND (‘academic staff’ OR ‘faculty members’)
ProQuest	(“Research Vitality” OR “Academic vitality” OR “faculty Vitality” OR “job* Vitality” OR “Career Vitality” OR “Education Vitality” OR “Maintaining Vitality” AND (“academic staff”]) OR “faculty members”)
Magiran: Persian database	“research vitality” OR “academic vitality” OR “Faculty vitality” OR “Job vitality” OR “Career Vitality” OR “Education Vitality” OR “Maintaining Vitality” AND (“academic staff” OR “faculty members”)
SID: Persian Data base	“research vitality” OR “academic vitality” OR “Faculty vitality” OR “Job vitality” OR “Career Vitality” OR “Education Vitality” OR “Maintaining Vitality” AND (“academic staff” OR “faculty members”)
Noormags: Persian database	“research vitality” OR “academic vitality” OR “Faculty vitality” OR “Job vitality” OR “Career Vitality” OR “Education Vitality” OR “Maintaining Vitality” AND (“academic staff” OR “faculty members”)

individual factors such as self-confidence, acquiring advanced expertise and research skills, promoting collaboration among faculty members, encouraging the exchange of knowledge and experiences in the health sector, and reinforcing a commitment to applied research can enhance motivation. This, in turn, enables faculty members to address research-related challenges with greater confidence and to engage in applied research with increased precision and dedication, ultimately leading to

higher levels of creativity, innovation, and engagement in research activities.

Organizational factors—such as management style, research policies and regulations, and the availability of research facilities—play a significant role in enhancing research vitality. These factors contribute by promoting organizational justice (e.g., fairness in financial resource allocation, equal opportunities, and sufficient research funding), providing managerial support, facilitating access to research data, emphasizing adherence to research ethics, and fostering effective scientific output. Equitable distribution of resources and opportunities helps mitigate perceptions of inequality, thereby motivating faculty members to engage more actively in research. Additionally, managerial support compliance with ethical and institutional research standards empowers faculty to pursue their scholarly endeavors with greater enthusiasm, energy, and confidence, knowing that their efforts contribute meaningfully to advancements in health, education, and industry.

Taylor^[11] also underscores the importance of managerial support, recognition of individual competencies, faculty promotions, and support for research projects, as well as the facilitation of workplace interactions, as critical contributors to research vitality. Similarly, Khalid and Al-Kohawis^[21] and Vaziri^[22] highlight the role of managerial and social support, increased income, and salary parity with other organizations in fostering vitality, enhancing job commitment, and strengthening faculty members' sense of responsibility within the workplace.

Professional factors, including the perceived value and relevance of research, also significantly contribute to enhancing research vitality and improving the research performance of faculty members. These factors encompass the development of individual knowledge, the intrinsic appeal of research activities, alignment of research goals with personal and institutional values, maintenance of work-life balance, and the dissemination of health information to the community. Other influential aspects include knowledge production, improvement of faculty quality of life, wealth generation, promotion of a research-oriented culture, development of research-based education, efficient use of human capital, preservation of human values and dignity, and contributions to business development. Baldwin^[23] identifies the organization of empowerment workshops focused on professional development and technological skill enhancement as crucial to sustaining research vitality.

Table 3: Factors related to the research vitality of faculty members

Main categories	Subcategories	Codes	Source number in Appendix 1
Individual factors	Personality traits	Self-confidence Accuracy And Perseverance Purposefulness Positivity Creativity Research interest Achievement Sustained research efforts Interacting Commitment	1,2,3,4,5, 7, 8, 9,11, 12,13,18,19,20, 21,24, 25, 26, 27
	Professional Competencies	Sharing knowledge Expertise and research skill Innovation and creativity Mastery of modern technologies Adapting to career changes Industry communication skills	2, 3, 7,9,11,12, 13, 17, 18, 20,21, 24, 25, 26, 27
Organizational factors	Management style	Providing managerial support Time management Clarity of research objectives Equality of opportunities Efficient and effective research policies Equitable distribution of resources Expanding international research collaborations Merit-based research leadership	1,2,3,7,9,11,13,14,10,19,21,2 4,27
	Research policies and regulations	Support effective scientific output Establishing intellectual property rights Emphasizing research ethics Research consultations	1,2,3,7,9,11,13,14,10,19,21,2 4,27
	Research facilities	Database provision Technology infrastructure development Acquisition of advanced laboratory and library resources. Sufficient research budgets Facilitating access to research data	17, 18, 21, 26 ,3, 7 ,16,22
Professional factor	Research Nature	Appeal of research activities	13, 15, 19, 20,21, 24, 27
		Alignment of individual and organization values Work-life balance Skill development Provision of health information to the community Knowledge creation Business development Collaborative research	
	Research Importance	Development Individual knowledge Enhancing quality of life Entrepreneurship and wealth creation Promotion of a research culture Improving the research culture Promoting human dignity Efficient use of human resources Promoting moral values	1,3,4,6,9, 13, 15, 17, 21,26,27

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Table 3: Contd...

Main categories	Subcategories	Codes	Source number in Appendix 1
Environmental factors	Interactions	Exchange of knowledge and experiences Expanding professional networks Strengthening individual communication network Environmental stress management Expansion of interdisciplinary communication	1, 2,20, 7, 19 , 21,23 ,9,27
	Recognition and Rewards	Appreciation (material and spiritual rewards) Research commercialization Recognition of research achievements Equity in research salaries Prompt payment of salaries Research travel grants Facilitating research opportunities Research independence	1,3,17,21,24, 25
	Values	Involving researchers in research policies Availability of research consultancy systems Rejuvenation Favorable research environment Entertainment and leisure	1, 10, 17, 16, 20, 21, 27

Additionally, Anne M. DeFelippo^[24] notes that the benefits of fostering research vitality include reduced job-related stress and anxiety, enhanced professional growth, and the reinforcement of a positive and supportive workplace culture.

Additionally, based on the study's findings, environmental factors—such as collaboration within the research environment, recognition and rewards, knowledge exchange, skill development, opportunities to learn from senior colleagues, and the availability of research consultancy services to prevent errors in scientific publishing—are essential for motivating faculty members and enhancing the quality and productivity of their research. These factors also play a crucial in fostering research vitality. Pololi *et al.*^[15] identify individual and environmental factors—such as professional relationships, alignment of personal and institutional values, work–life balance, and organizational support—as predictors of faculty members' vitality. Furthermore, establishing strong interpersonal relationships and acknowledging the scientific, research, and educational contributions of faculty members are highlighted as important strategies for increasing their vitality. Dankoski *et al.* (2012)^[3] similarly emphasize the importance of managerial support, encouragement, and faculty involvement in institutional decision-making processes as key contributors to enhancing research vitality and academic success.

By identifying individual, organizational, professional, and environmental dimensions, the present findings underscore the complex and multifaceted nature of research vitality and its pivotal role in advancing knowledge production in the health sector. In the broader academic context, challenges such as balancing teaching, research, and administrative

responsibilities—as well as limited access to funding and infrastructure—are not exclusive to medical faculty but are experienced across various academic disciplines worldwide. However, the specific focus on health research introduces additional complexity as medical faculty face the pressing demand to translate research findings into clinical practice in order to improve patient outcomes. This dual responsibility amplifies the need for targeted interventions to sustain and strengthen research vitality.

Comparisons with nonmedical faculty reveal overlapping challenges and distinctive differences. While limited institutional support and inadequate professional development opportunities are common across disciplines, medical faculty frequently operate in high-stake environments that demand rapid, evidence-based outputs. In contrast, nonmedical disciplines may prioritize theoretical or applied research within broader societal frameworks. These unique pressures within the medical field necessitate specialized strategies tailored to the needs and conditions of medical researchers.

Conclusion

The psychological dimension of faculty members in medical universities has been overlooked. This study demonstrates that a combination of individual, professional, organizational, and environmental factors significantly influences the research vitality of faculty members. Enhancing these factors can lead to a substantial improvement in research vitality. Therefore, the findings of this study offer valuable guidance for policymakers and institutional planners. It is essential that university and research institution leaders continuously assess and strengthen these areas through the development of comprehensive and effective support programs for researchers.

Furthermore, the findings provide a foundation for crafting informed research policies aimed at elevating the status of research and improving the quality and productivity of academic outputs. These insights pave the way for implementing targeted and impactful strategies to enhance the research vitality of faculty members, thereby fostering their scientific success and professional growth.

This study has also identified critical gaps in the accurate assessment of research vitality. Previous research has inadequately addressed the comprehensive evaluation of faculty vitality across professional, research, and educational dimensions. As such, further studies are recommended to explore the combined effects of the identified factors. In particular, future research should include more quantitative and experimental designs to validate and extend the current qualitative findings.

One key limitation of this study is its focus on medical universities within a specific country, which may limit the generalizability of the results to global contexts or regions with differing institutional structures. Recognizing this limitation provides direction for future investigations. Subsequent research could expand on the present study by examining how these factors interact across various academic disciplines and geographic settings, ultimately offering a more nuanced and globally relevant understanding of research vitality in higher education.

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Conflicts of interest

Nothing to declare.

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