Doctoral Pursuits of Administrative Staff in Chinese Universities: Motivations, Challenges, and Pathways
The Moderating Role of AI Self-Efficacy

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ABSTRACT

In the context of the connotative development of higher education and the in-depth implementation of the strategy of rejuvenating the country through science and education, administrative teachers in colleges and universities are facing significant pressure to improve their academic qualifications and career transformation. This paper aims to construct an integrated analysis framework corresponding to "reality driver-multi-dimensional dilemma-path optimization", and systematically explore the moderating effect of AI self-efficacy in it. The study found that the motivation of administrative teachers to study for doctoral degrees mainly stems from four aspects: institutional education threshold, career development demand, family responsibility drive and future uncertainty response. In the process of studying for a doctorate, they face four core dilemmas: entry threshold, engineering contradiction, physical and mental adaptation and cognitive renewal. Based on this, this paper proposes four optimization paths: further education path optimization, core capacity building, environmental support enhancement and digital technology empowerment. Theoretical analysis shows that AI self-efficacy, as a key psychological and ability variable, can play a positive moderating role in the above-mentioned "dilemma-effectiveness" path by improving the efficiency of information processing, scientific research management and technology application, effectively relieving pressure and improving academic success rate. This study provides theoretical reference and practical enlightenment for supporting the professional development and team building of college administrative teachers.

Keywords: College administrative teachers, Pursuing a doctoral degree, AI self-efficacy.

1. INTRODUCTION

The Central Committee of the Communist Party of China and the State Council issued the "China Education Modernization 2035", which puts "building a high-quality, professional and innovative teaching team" at the core, and strengthens the organic connection between pre-service teacher training and post-service teacher development. Consolidate the professional development system of teachers and promote teachers' lifelong learning and independent professional development [1]. Under this national strategic plan, the teaching staff of university administration is the key to improving the level of teaching management, tapping the potential of human resources, and an important support for promoting the high-quality development of education [2]. In stark contrast to the rapid increase in the proportion of full-time teachers, the upgrading process of the educational structure of administrative teachers in colleges and universities is relatively lagging behind. However, the requirements for doctoral degrees in the recruitment of internal management positions, professional and technical positions and cadre selection in colleges and universities have gradually changed from "preferential options" to "standard items", which makes the administrative teachers under unprecedented pressure on academic promotion. Pursuing a doctorate has become a key strategic choice for them to break through the "ceiling" of career development and achieve sustainable and professional development.

Behind this choice are complex practical considerations. Administrative teachers generally encounter the entry threshold under the application assessment system, the sharp engineering contradiction between full-time work and doctoral studies, the physical and mental adaptation challenges of returning to the academic environment, and the cognitive pressure of knowledge aging and skill renewal in the context of the digital age. Traditional coping strategies mostly focus on external resource support and personal time management, but today, as AI technology profoundly reshapes the scientific research paradigm, an individual's ability to master and apply AI technology, that is, AI self-efficacy, has become a crucial moderating variable. How it affects administrative teachers to cope with various challenges in the process of doctoral study is a topic with both theoretical value and practical significance.

Based on the above background, this study constructs an integrated analysis framework to systematically analyze the four practical motivations and four core dilemmas of university administrative teachers pursuing doctoral degrees, and propose four optimization paths corresponding to each other.

2. ANALYSIS OF REALISTIC MOTIVATIONS

This study summarizes the practical motivations of university administrative teachers to pursue doctoral degrees into the following four closely related dimensions:

2.1 Institutional Driven: Hard Constraints on the Policy Environment and Academic Thresholds

Under the guidance of improving the quality of higher education and national strategies, the internal management system of colleges and universities has increasingly strengthened the "signal" function of high education. Whether it is the initial recruitment of management positions, the promotion of intermediate positions, or the evaluation of senior professional titles, the doctoral degree has gradually changed from a competitive advantage to a basic threshold. [3] (Wang& Wang2024). Cai Fen et al(2020) argues that this top-down institutional pressure is the most direct and strong external motivation for administrative teachers to pursue doctoral degrees. This top-down

institutional pressure is the most direct and strong external motivation for administrative teachers to pursue doctoral degrees. [4]

2.2 Career Development Demands: Breaking Through the Endogenous Driving Force of "Career Plateau" and Identity Transformation

The inherent repetitive and transactional characteristics of administrative work can easily cause practitioners to fall into a state of "career plateau" where promotion is stagnant and challenging is insufficient. At the same time, in the implicit culture of "emphasizing teaching and scientific research and neglecting administrative management" in colleges and universities, the professional identity and sense of value of administrative teachers are often challenged. Therefore, studying for a doctorate is not only to obtain a diploma, but also to achieve a profound transformation from a "transactional" staff to a "research" manager or "expert" leader through systematic academic training (Huang Haigang & Jin Yi, 2016). [5] In addition, obtaining a doctorate can also help administrative professionals break through development bottlenecks, reshape professional identity, and expand career development space (Han Shuang & Luo Yingzi, 2022) [6].

2.3 Family Responsibility Driven: A Concentrated Embodiment of Intergenerational Influence and Life Cycle Pressure

Most of this group is in the life stage of the "sandwich generation", and has the dual responsibility of raising children and supporting parents. On the one hand, the purpose of pursuing a doctoral degree is to improve the socio-economic status of the family and strive for better educational resources and development platforms for children (i.e., "reading for children") (Mason-Williams & Wasburn-Moses, 2016)[7]; On the other hand, Rockinson-Szapkiw et al (2018) mentioned that this move itself is also a powerful teaching by word and deed, reflecting the deep-seated ethics of intergenerational care and family responsibility[8].

2.4 Response to Future Uncertainties: Forward-looking Avoidance of Technological Changes and Occupational risks

In the face of job reshaping and profound changes in the governance model of higher education brought about by artificial intelligence technology, administrative positions in colleges and universities are also facing potential risks of process optimization, functional transformation and even technology substitution. In this context, a PhD is seen as a positive "strategic investment". Kucuksuleymanoglu (2025) argues that this investment aims to enhance career adaptability, resilience, and irreplaceability in an uncertain environment by improving individuals' core cognitive abilities, systematic research literacy, and macro-strategic vision. [9]

3. MULTI-DIMENSIONAL DILEMMA ANALYSIS

Scalar Closely corresponding to the above four motivations, administrative teachers mainly face the following four dilemmas in the process of doctoral studies, which constitute the practical contradiction of "wanting to read but difficult to read".

3.1 The Entry Threshold Dilemma: Corresponds to the "Institutional-driven" Motivation

At present, the "application-assessment" system commonly implemented in doctoral education in China pays great attention to the applicant's scientific research background, academic achievements and development potential. This constitutes the first insurmountable barrier for teachers who have been engaged in administrative work for a long time and lack recent high-level scientific research achievements and project experience [10]. Its administrative experience is difficult to effectively translate into "academic capital" recognized by the application assessment, resulting in a huge contrast between strong will and dismal success rate.

3.2 Engineering Contradiction Dilemma: Corresponds to the Motivation of "Career Development Demand"

This is the core dilemma of administrative teachers in the process of studying for a doctorate. The rigid requirements of full-time administrative work are in sharp conflict with the large, continuous and in-depth scientific research time required for doctoral training. The suddenness, triviality, and multi-threaded nature of administrative affairs constantly erode and fragment their academic research time, which can easily lead to the dual anxiety and role conflict of "difficulty in work excellence and slow academic progress", which directly affects their core goal of achieving career transformation through doctoral studies [11].

3.3 The Dilemma of Physical and Mental Adaptation: Corresponds to the Motivation of "Family Responsibility Driven"

Returning to the high-intensity academic competition arena while shouldering heavy family responsibilities requires overcoming the "knowledge gap" and "skill gap" caused by long-term separation from the academic environment. The triple stress of work, school, and family is constantly superimposed, which can easily lead to physical and mental problems such as chronic fatigue, high anxiety, and reduced self-efficacy [12], which poses a severe test to their health and academic sustainability.

3.4 Cognitive Renewal Dilemma: Corresponds to the Motivation of "Coping with Future Uncertainty"

Doctoral research itself requires researchers to be at the forefront of knowledge and master advanced research methods and tools [13]. In today's rapidly developing AI technology, administrative teachers will find it difficult to efficiently complete tasks such as massive literature combing, complex data analysis, and high-quality academic writing if they lack the necessary digital literacy and AI application capabilities [14]. This not only directly affects their current academic progress, but also fundamentally weakens their original intention of enhancing their future career competitiveness through doctoral studies.

4. FANALYSIS OF THE MODERATING EFFECT OF AI SELF-EFFICACY

AI self-efficacy originates from Bandura's theory of social cognition, which refers to the level of judgment and confidence in an individual's ability to successfully complete academic-related tasks using artificial intelligence technology (Bandura, 1997). [15] In this study, it refers to the ability judgment and confidence level of college administrative teachers to successfully complete academic-related tasks using artificial intelligence technology. As a key psychological capital and dynamic ability, it plays a crucial moderating role in the "dilemma-success" path. In the context of the digital research paradigm shift (Zawacki-Richter et al., 2019), it plays a crucial moderating role in the "dilemma-Immersive Translate — Immersive Translate success" path as a key psychological capital and dynamic ability. Specifically, similar to the use of technology in education, it significantly affects teacher confidence and behavior (Scherer & Teo, 2019). [16]

4.1 Moderating Role in the "Entry Threshold Dilemma"

Teachers with high AI self-efficacy can more confidently and actively use various AI academic tools (such as bibliometric analysis tools and research frontier discovery systems) to quickly grasp the dynamics of disciplines, optimize research topic selection and theoretical frameworks, so as to write more innovative, cutting edge and feasible research proposals, significantly make up for the shortcomings of their scientific research background, and enhance their relative competitiveness under the "application-assessment" system.

4.2 Moderating Role in the "Engineering Contradiction Dilemma"

AI self-efficacy can stimulate teachers to actively seek out and master intelligent time management applications, automatic literature classification and summarization tools, AI-assisted note-taking software, etc. This essentially provides it with a "technical lever" for "time extension", which effectively alleviates the obstruction of the research process caused by time fragmentation by greatly improving the efficiency of information processing and knowledge integration per unit time,

and provides a realistic possibility for balancing work and study.

4.3 Moderating Role in the "Physical and Mental Adaptation Dilemma"

When faced with difficult tasks such as academic writing and data modeling, people with high AI self-efficacy are more inclined to view AI tools as "partners" rather than threats to collaborative research. Empirical studies have shown that similar AI empowerment can effectively reduce task difficulty and cognitive load and buffer psychological stress by improving research self-efficacy (Wang & Wang, 2021). This is in line with the view that self-efficacy is the core motivation for learning (Zimmerman, 2000), and AI self-efficacy protects the mental health of administrative teachers under multiple stresses by enhancing the expectation and confidence of academic success. [17]

4.4 Moderating Role in the "Cognitive Renewal Dilemma"

Teachers with high AI self-efficacy have a positive attitude and confidence in learning and mastering new technologies. They can master and creatively integrate new AI research tools into their personal academic workflows faster, which not only directly solves the immediate problem of scientific research efficiency, but also serves as a key psychological foundation for them to achieve lifelong learning and continue to adapt to future technological changes, perfectly echoing their deep motivation for "coping with uncertainty".

5. PATH OPTIMIZATION SYSTEM CONSTRUCTION

Based on the logic of "motivation-dilemma" and the adjustment perspective of AI self-efficacy, this paper constructs the following four-dimensional path optimization system

5.1 Path 1: Optimization of Further Education Paths - Accurately Targeting The "Entry Threshold Dilemma"

Strategy core: It is to explore diversified and differentiated channels for further education to avoid fierce competition, and focus on doctoral programs in Hong Kong and Macao universities

(with both international standards and geocultural advantages), professional doctoral degrees (such as Ed.D., Ed.D, with a focus on practical leadership), and interdisciplinary projects that are highly relevant to their administrative fields.

AI Empowerment: It is to encourage the use of AI-powered school selection platforms for precise positioning and the use of AI simulated interview systems for repeated drills. In the preparation stage of application materials, make good use of AI tools for literature review and research design optimization to enhance the professionalism and competitiveness of application materials.

5.2 Path 2: Core Capacity Building - Accurately Targeting The "Engineering Contradiction Dilemma"

Strategy core: Systematically improve foreign language proficiency and digital literacy as the foundation of modern researchers. The personnel department or teacher development center of the university should take the lead in organizing a series of workshops on "Academic Development and Intelligent Technology" for administrative teachers.

AI Empowerment: Placing the cultivation of AI self-efficacy at the heart of capacity building. Carry out special and practical training on AI literature management tools, AI data analysis software, AI-assisted writing platforms, etc., aiming to internalize these tools as their scientific research "tools" and directly transform them into "productivity" to improve scientific research efficiency.

5.3 Path 3: Strengthening Environmental Support - Targeting the "Physical and Mental Adaptation Dilemma"

Strategy core: Build a three-in-one support network of "family-unit-peer". Full communication and division of responsibilities within the family are required; At the university level, supportive policies such as flexible working arrangements andacademic development leave should be explored. Establish a peer support group for doctoral studies to form a community of emotional comfort and experience sharing.

AI Empowerment: Promote the use of intelligent collaboration platforms (such as online documents, project management tools) and shared smart calendars to promote efficient communication and time coordination with mentors, colleagues, and family members, and reduce the physical and mental burden of coordinating affairs from a technical level.

5.4 Path 4: Digital Technology Empowerment - Accurately Targeting The "Cognitive Renewal Dilemma"

Strategy core: The application of intelligent tools throughout the whole process of doctoral studies to realize the digital transformation of research paradigms.

AI Empowerment: From using AI to conduct literature research and review before the thesis report, to data collection, cleaning, and visual analysis in the middle of the study, to later paper writing, polishing, and verification, we fully embrace all kinds of AI scientific research assistants. This is not only to complete school, but also to continuously improve AI self-efficacy and embrace the digital age.

6. CONCLUSION

This study systematically constructs an integrated analysis model of "motivation-dilemma-path" for university administrative teachers pursuing doctoral degrees, and deeply demonstrates the important role of AI self-efficacy as a key moderating variable. The main conclusions are as follows:

First, the decision of administrative teachers to study for a doctorate is not dueto a single factor, but a complex result driven by the interweaving of four major drivers: institutional pressure, professional demands, family responsibilities and risk response.

Second, the difficulties encountered in the process of studying are closely related to the initial motivation and structurally correspond, revealing the profound contradiction between personal development demands and objective reality conditions.

Third, the most effective optimization path must accurately target specific dilemmas and form mutually supportive systematic solutions, and any single point of breakthrough is difficult to work.

Fourth, in the era of digitalization and intelligence, consciously cultivating and improving AI self-efficacy is the core mechanism to unlock multiple dilemmas and empower various optimization paths. It not only addresses external

challenges by improving the efficiency of tool use, but also enriches an individual's psychological capital by enhancing confidence and a sense of control.

Looking ahead, universities and management should go beyond the traditional support model, incorporate the development of digital literacy and AI self-efficacy of administrative teachers into the overall planning of team building, and support them through institutionalized training and practice platforms. For individual administrative teachers, they need to uphold a growth mindset, actively embrace technological change, and regard AI self-efficacy as an important professional capital to invest in and cultivate. This study provides a new perspective that integrates organizational environment and individual ability, traditional factors and digital variables to understand and support the professional development of this group, and also lays a theoretical foundation for subsequent empirical research on career development and lifelong learning in the digital age.

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