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A STUDY ON THE IMPACT OF CAREER DEVELOPMENT, CAREER SUPPORT AND SELF-EFFICACY ON WORK MOTIVATION AMONG UNIVERSITY LECTURERS

Yue Jinbo¹, Indang Ariati Ariffin^{2*}, Jacqueline Tham³

^{1,2,3} Graduate School of Management, Management and Science University Shah Alam, Malaysia.

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Corresponding author: Indang Ariati Ariffin
(indang@msu.edu.my)

ABSTRACT

Under the backdrop of quality-oriented development in higher education, university lecturers' work motivation is crucial for enhancing teaching quality. This study employs quantitative methods, using Structural Equation Modeling (SEM) and Bootstrap testing on questionnaire data, to examine the mechanisms linking career development and professional support to work motivation, focusing on the mediating role of self-efficacy. Results show excellent model fit ($\chi^2/df=1.422$, GFI/CFI>0.941, RMSEA=0.001). Directly, both career development and support significantly predict self-efficacy ($\beta=0.302, 0.279$) and work engagement ($\beta=0.187, 0.357$), with support being the key external driver. Bootstrap tests confirmed the significant mediating role of self-efficacy in both pathways (indirect effects: 0.056, 0.097; 95% CIs exclude zero). In summary, career development and support not only directly drive engagement but also indirectly do so by enhancing self-efficacy. Therefore, universities should combine external support with internal empowerment, establishing robust support systems while prioritizing the cultivation of teachers' professional confidence to maximize their work motivation.

KEYWORDS: career development; career support; self-efficacy; work motivation; structural equation modelling; mediating effect

1. INTRODUCTION

The state is currently vigorously advancing its strategies to build China into a leading nation in education and science and technology. In this process, university lecturers shoulder multiple responsibilities, including talent development, research and community engagement, and have become a driving force behind the high-quality development of higher education (Shyiramunda & van den Bersselaar, 2024). In recent years, the education authorities have issued a series of policy documents on the development of the university teaching staff, setting out clear requirements covering everything from professional title assessment and post appointment to performance-related pay and professional development. In implementing these policies, universities have continually adjusted their management systems and resource allocation, with faculty development gradually shifting from a focus on quantitative expansion to an emphasis on quality enhancement (Liu, 2024). At the same time, technologies such as artificial intelligence and big data are being increasingly integrated into teaching and research, whilst universities continue to drive forward the restructuring of academic disciplines and the innovation of educational models; new staff appointment systems have shattered the former expectation of a 'secure job for life'. The convergence of multiple changes has significantly increased the workload on teachers in areas such as teaching and research, leaving many feeling confused and uncertain about their career paths, professional roles and future prospects. Consequently, university lecturers have an increasingly pressing need for a stable, clear and tangible system of career support.

Against this backdrop, researchers are placing increasing emphasis on the role of self-efficacy in explaining teachers' work status and professional behaviour. Psychological research indicates that self-efficacy is a key psychological factor determining the level of effort an individual exerts and the duration of their persistence when faced with a task; high self-efficacy is often associated with higher goal-setting, more proactive strategies and greater resilience to setbacks (Bataineh et al., 2025). When planning their careers, undertaking teaching and research duties, and preparing for external assessments, university lecturers rely on their sense of self-efficacy to assess whether they can meet the required standards. However, teachers' self-assessment does not occur in a vacuum; factors such as career development opportunities, the level of organisational support, the availability of resources, and evaluation and incentive mechanisms all influence their subjective perception of their own abilities and their expectations for the future

(Warsi & Khurshid, 2022). Although existing research has confirmed the association between job support, self-efficacy and work status, there remains a lack of systematic empirical analysis of the pathways and specific mechanisms linking these three factors. This study focuses on university lecturers, examining in particular the relationship between career development, career support and self-efficacy. It analyses how different types of career support influence teachers' career experiences and behavioural choices by affecting their self-efficacy, with the aim of providing a theoretical basis and decision-making guidance for universities to refine their support policies and optimise their development environment.

Educational reforms in the new era present new opportunities for the development of teaching staff in higher education institutions; however, lecturers have yet to fully grasp the underlying mechanisms through which external resources influence their motivation, giving rise to a series of specific issues. The first question focuses on the direct pathway: teachers need to assess whether they perceive sufficient opportunities for professional development, whether the support provided by the school is effective, and whether these factors can directly enhance their enthusiasm and initiative (Zeggelaar et al., 2022). The second question focuses on the underlying psychological mechanisms: teachers need to consider whether the opportunities provided by the school—such as grant applications, career progression and further study or research visits—can truly be translated into the confidence and capability required to tackle complex teaching and research tasks, and whether this enhanced sense of self-efficacy can further drive their sustained commitment to their academic careers (Mason & Merga, 2022). The third question focuses on context and boundary conditions: both teachers and school leaders need to clarify whether the support provided by the school in terms of policies, resources and interpersonal relationships moderates the relationship between career development opportunities, self-efficacy and work motivation (Jentsch et al., 2023); Can strong organisational support amplify the positive impact of development opportunities, and does a lack of support weaken or even negate these effects? Current domestic research largely focuses on interpreting macro-level policies or examining individual variables, with few studies conducting empirical analyses from the perspective of the interaction between individual teachers' psychological characteristics and organisational support. When reforming personnel systems and allocating resources, university administrators still face the practical challenge of how to respond accurately to staff needs, alleviate pressure and stimulate intrinsic motivation.

In order to provide a more systematic analysis of the issues encountered in design education, this study adopts visual cognition theory and design thinking theory as its core theoretical framework (Li & Zhan, 2022). These two categories of theory provide a sound framework for analysing the cognitive processes involved in individuals' processing of graphical information and interaction logic within user interfaces; in particular, the two core concepts of 'perceptual understanding' and 'logical construction' offer a clear analytical perspective. In terms of its approach, this study defines the interface design practices of students at vocational colleges in Suzhou as a concrete manifestation of visual thinking, focusing on the characteristics of visual cognition exhibited by students when applying their interface design skills. Specifically, this study focuses on the constituent elements and visual characteristics of interfaces, conducting an in-depth analysis of how different visual presentation methods influence students' judgements regarding the 'perception and understanding' and 'logical construction' of information (Harahap et al., 2025). It further examines how these two types of cognitive outcomes interact to shape students' interface design performance, ultimately supporting the development of a visual thinking framework. In terms of research objectives, this study seeks to examine the underlying cognitive mechanisms through which visual thinking influences the application of interface design skills among students at vocational colleges in Suzhou. It is hoped that this process will enrich the theoretical foundations of interface design teaching in the field of vocational education and broaden the scope of application of visual thinking theory within the context of vocational colleges, whilst providing targeted guidance and recommendations for vocational colleges in Suzhou on optimising their curriculum and talent development programmes.

This project aims to systematically elucidate the mechanisms underlying the relationship between university lecturers' career development, self-efficacy and career support (Scott et al., 2023). Through empirical analysis, this study enriches the research perspectives in the fields of higher education management and the psychology of teacher development, whilst deepening the theoretical understanding of self-efficacy within the context of local higher education institutions. The findings of this study effectively address gaps in existing research regarding the interaction between teachers' psychological traits and external support systems. In practical terms, this project focuses on supporting university administration and staff development. University administrators can use the impact pathways identified in this study to optimise existing

staff support policies; the Human Resources Department can use these findings to adjust institutional arrangements such as promotion procedures, performance appraisals and the allocation of training resources, thereby fostering an environment conducive to the long-term development of teaching staff; the Centre for Teacher Development can utilise the theoretical framework developed to design self-efficacy assessment tools and a career support evaluation system suitable for teachers at different subject levels; Educational administrators can use these tools to continuously monitor teachers' well-being, identify their needs and implement targeted interventions. At the macro level, this project aims to provide a model for faculty development in universities across the country, setting out a pathway to encourage teachers to move from 'passively meeting assessment requirements' to 'proactive professional development'. The findings of the study are closely aligned with the national requirement to 'build a high-calibre, professional teaching workforce' and actively address practical issues such as the rising levels of stress among teachers. If higher education institutions can refine their support systems accordingly, they will have the opportunity to enhance teachers' professional identity and commitment to research across the board, thereby providing a solid talent base and intellectual support for the high-quality development of higher education.

2. LITERATURE REVIEW

2.1. *Historical literature on the selected research factors*

2.1.1. *Career Development*

Career development is a key area of research in occupational psychology and a crucial factor influencing organisational performance and individual work motivation. Prastyaningtyas et al. (2023) argues that career development is a dynamic process through which individuals continuously enhance their capabilities and advance in their roles through ongoing learning and interaction with their environment. This definition emphasises the important role that career planning plays in an individual's journey towards self-fulfilment. As higher education continues to shift towards quality-driven development, the concept of career development has taken on a richer meaning within the university context. Aithal and Aithal (2023) have pointed out that career development for university lecturers primarily involves enhancing digital teaching skills, increasing research output, and, on this basis, seeking promotion to higher academic ranks. Although the contexts in which it is applied may vary, the core essence of career development remains consistent. Numerous empirical

studies have shown that a well-structured career development pathway can directly and sustainably enhance teachers' job engagement. Since the introduction of the academic promotion system into the field of higher education research, researchers have begun to pay greater attention to issues of career development. Hulme and Wood (2022) found that clear career development pathways can encourage young teachers to adopt a more positive attitude towards their work. At the same time, the development of career paths is also influenced by external factors. Research indicates that servant leadership can promote teachers' professional development, whilst gender composition and resource allocation moderate this process (Al-Muzahimi et al., 2025).

This study argues that career development is a key mechanism enabling university lecturers to address academic challenges. This study defines career development for university lecturers as the extent to which lecturers perceive the support provided by the institution's existing systems in enhancing their academic standing and professional status. This concept comprises two dimensions: firstly, the clarity of the academic career path, namely the role that the institution's promotion mechanisms play in helping staff set goals and alleviate career-related anxiety; secondly, the enhancement of professional capabilities, namely the support provided by the school's training system to help teachers overcome academic bottlenecks and achieve long-term professional development.

2.1.2. Career Support

Career support is a key concept in organisational behaviour research and is closely linked to career development. Ilyas et al. (2023) argues that the perception of organisational support is an employee's subjective judgement as to whether the organisation values their contributions and cares about their well-being. Subsequent research has extended this concept to the field of career support, focusing on the extent to which organisations provide resources and safeguards to facilitate individuals' career advancement. In the context of higher education, 'Career Support' primarily refers to the actual experiences of university staff regarding access to resources and emotional identification whilst carrying out their teaching and research duties. The key to career support lies in whether teachers feel secure and supported in their working environment (Admiraal et al., 2023). Effective career support not only fosters positive expectations among teachers regarding career development, but also enhances their organisational commitment, thereby boosting their motivation to remain in the profession. Existing research indicates that career

support exhibits distinct contextual characteristics among university teaching staff. In terms of resource provision, adequate funding and research facilities can enhance the efficiency of academic staff's research output. On a psychological level, informal support from colleagues influences how well new teachers settle into their roles. Heaton-Shrestha et al. (2023) has also found that collaborative support from academic teams within research-intensive universities is more effective at boosting staff motivation than institutional support alone. At the same time, Career Support can help mitigate the adverse effects of research-related stress on staff mental health. This study regards career support as a key external factor in stimulating work motivation among university lecturers.

This study posits that career support for university lecturers refers to their subjective perception of the level of institutional resources and emotional support provided to them as they navigate the challenges of teaching and research. This concept comprises three aspects: firstly, resource-based support, namely the research platforms and funding provided by the university; secondly, strategic support, namely assistance from the school in interpreting policies and providing guidance on professional title assessments; thirdly, an atmosphere of support, namely the inclusive environment of the academic community and the administrative services that ensure staff can devote themselves to their academic work with peace of mind.

2.1.3. Self-efficacy

Self-efficacy is a core factor in the occupational psychology of university lecturers. Bandura's social cognitive theory posits that an individual's assessment of their own abilities directly influences the level of effort they exert and their persistence when faced with a task (Fuente et al., 2023). In the context of higher education, teachers' self-efficacy influences not only the quality of classroom teaching but also the sustainability of research output and professional resilience. Research by Masoumi and Noroozi (2025) suggests that systematic academic training and timely peer feedback can enhance young teachers' professional confidence. This confidence can help teachers maintain a steady mindset when applying for challenging research projects, thereby alleviating the sense of helplessness caused by setbacks. Vidergor (2023) found that teachers with high self-efficacy are more willing to try innovative teaching methods in the classroom. Teachers of this kind tend to view complex teaching tasks as opportunities to demonstrate their abilities, rather than simply seeing them as insurmountable obstacles. As the digital transformation of education continues to advance, the scope of teachers' self-efficacy is also constantly

expanding. A study by Nazim and Alzubi (2025) indicates that teachers' proficiency in using generative AI tools can enhance their sense of psychological empowerment and boost their confidence in tackling complex teaching and research tasks. This sense of technical efficacy not only reduces teachers' cognitive load but also encourages them to take the initiative in exploring digital and intelligent teaching methods.

It is currently widely accepted in academic circles that university lecturers' self-efficacy has taken the form of an interplay between technical, affective and organisational factors. Teachers often find that their sense of efficacy gradually improves as they continue to receive professional feedback and support. This study suggests that self-efficacy plays a significant bridging role between the external work environment and teachers' work motivation. Accordingly, this study defines university lecturers' self-efficacy as their belief in their ability to fulfil academic tasks, overcome the challenges of professional transition, and realise their self-worth whilst carrying out their teaching and research duties.

2.1.4. Work Motivation

Work motivation is a key variable in organisational behaviour for predicting individual performance. Diefendorff et al. (2022) points out that work motivation determines the direction, intensity and duration of an individual's behaviour. In the field of higher education, researchers generally interpret this concept as the willingness and inclination of teaching staff to engage in teaching and research activities. Work motivation not only influences teachers' actual performance, but also reflects the extent to which they identify with the school's objectives and their professional role (Layek & Koodamara, 2024). University lecturers' work motivation is influenced by both the institutional environment and individual psychological traits. Merdiaty and Sulistiasih (2024) found that intrinsic motivation for achievement helps maintain a long-term and stable enthusiasm for research among experienced teachers. When teachers recognise the value of academic work in terms of self-fulfilment, they tend to show greater enthusiasm for their work. Peng and Nair (2022) further point out that fair promotion mechanisms can improve young teachers' expectations regarding the outcomes of their efforts and enhance their professional commitment. At the same time, changes in teachers' work motivation also exhibit distinct situational characteristics. Strong organisational support can inspire teachers to pursue academic exploration, whereas a heavy administrative workload can drain their energy and undermine their motivation.

This study focuses on the pathways through which the career support system and self-efficacy influence

teachers' work motivation. In the context of higher education, this study defines teachers' work motivation as their willingness to innovate in teaching and their inclination towards research and development during their career development (Juškevičienė et al., 2024). This study focuses on three main areas of measurement: teaching enthusiasm reflects the level of commitment teachers demonstrate in improving their teaching methods and focusing on student development; research perseverance reflects a lecturer's ability to maintain a spirit of inquiry in the face of academic setbacks and high-pressure assessments; a willingness to contribute to the organisation reflects a lecturer's proactive attitude towards discipline development, going beyond the requirements of their post.

2.2. Historical literature on the correlations between various factors

2.2.1. Career development and Career support have a positive impact on Self-efficacy

Self-efficacy is an individual's psychological assessment of their ability to perform a specific task. This psychological trait directly determines university lecturers' confidence and resilience in tackling academic challenges. A wealth of research indicates that a systematic career development framework can effectively enhance teachers' self-efficacy. If universities provide clear career progression pathways, lecturers will be able to develop stable career expectations. Empirical studies by a number of scholars have confirmed this view. Ma et al. (2022) found a significant positive correlation between the quality of young teachers' career planning and their sense of research efficacy. A longitudinal study by Zhou et al. (2023) confirmed that ongoing career development interventions significantly improved teachers' levels of teaching efficacy. In this study, which focuses on the higher education context, teachers' career development is defined as institutionalised pathways for professional advancement, such as promotion to higher academic ranks and study visits. These development opportunities provide teachers with external validation of their capabilities, enabling them to build on their successes and alleviate role-related anxiety. Once teachers are clear that there are clear promotion pathways within the organisation, they will feel a strong sense of confidence in overcoming academic bottlenecks. A well-developed career development platform grants teachers greater academic autonomy, and this supportive environment directly fosters a high sense of self-efficacy among teachers. Based on the above research, this study proposes the first hypothesis:

H1 : Career development has a significant positive impact on self-efficacy

Career support encompasses the resources, emotional support and information provided by an organisation to individuals. Social cognitive theory regards external environmental support as a key source for individuals to develop a sense of self-efficacy. Wilmot (2025) found that emotional support from departmental leaders significantly boosted new lecturers' confidence in their research. Research by Niemczyk and Rónay (2023) indicates that an adequate funding system effectively enhances scholars' sense of academic autonomy. Based on the characteristics of university work, this study breaks down 'Career Support' into three dimensions: research support, team collaboration and administrative services. University lecturers are under constant pressure from a variety of performance assessment criteria. When school management provides ample resources and fosters an inclusive environment, teachers can feel psychologically safe in tackling challenges. This external support not only supplements teachers' cognitive resources but also strengthens their resolve to tackle academic challenges. Once teachers are confident that they have reliable support from their team and clear policy guidance, their confidence in their ability to complete challenging research tasks increases significantly (Behnamnia & Hayati). Accordingly, this study proposes a second hypothesis:

H2 : Career support has a significant positive impact on self-efficacy

2.2.2 Career development and Career support have a positive impact on Work motivation

Career development encompasses promotion pathways and opportunities for professional growth within the organisation. It is widely accepted in academic circles that career development shapes employees' work motivation through multiple pathways. On the one hand, career development indirectly enhances work engagement by optimising an individual's psychological capital. Bihu and Dachi (2025) found that clear career progression prospects help employees develop stable career expectations. On the other hand, a wealth of career development opportunities can directly stimulate an individual's intrinsic motivation to achieve. Wahab and Din (2024) found that development plans aligned with an individual's personal vision can quickly spark enthusiasm and commitment among employees. The researcher also pointed out that, in knowledge-intensive industries, clear career progression pathways are a key driver in maintaining high levels of commitment.

This study focuses on university lecturers who are at a critical stage in their academic development. This

group harbours a strong desire for self-fulfilment in terms of academic achievement and social standing. Systems such as professional title evaluation and appointment, as well as academic visits and training programmes, form the core of 'Career Development' in this study (Cheng, 2025). Once academic staff are afforded fair and transparent opportunities for development, these positive expectations are immediately translated into tangible commitment to research endeavours (Liston & Fitzgerald, 2024). This achievement-motivation-based psychological feedback mechanism is highly explanatory within the context of higher education. Based on the above research, this study proposes a third hypothesis:

H3 : Career development has a significant positive impact on Work motivation

Career support reflects an organisation's emotional care for its employees, as well as the provision of feedback and resources. Current research suggests that career support enhances work motivation primarily through two pathways: direct and indirect. Through indirect channels, organisational support can improve employees' psychological contracts, reduce job-related anxiety and enhance work engagement. Lee (2023) found that strong organisational support enhances employees' psychological safety and further strengthens their emotional commitment. In the direct path, whether resources are made available in a timely manner has a direct impact on an individual's enthusiasm for the task. Masaeid et al. (2024) point out that employees' focus on their tasks improves significantly if they have timely access to the tools they need to resolve issues. For university lecturers, career support is of particular practical importance. As they are constantly faced with the dual pressures of research and teaching, they are all the more reliant on access to academic resources and a supportive organisational environment. Zhao et al. (2022) argue that clear and effective business collaboration is a key factor in maintaining high productivity in knowledge-intensive industries. In this study, 'Career Support' is specifically understood to encompass research funding, platforms for interdisciplinary collaboration, and the optimisation of administrative processes. If schools can provide targeted and consistent support, teachers will be able to reduce the drain caused by administrative tasks and devote more of their energy to teaching and research. If teachers feel that the organisation provides ongoing support for their academic development, their sense of ownership and willingness to commit to their work will also increase significantly. On this basis, this study proposes the fourth hypothesis:

H4 : Career support has a significant positive impact on work motivation

2.2.3. *Self-efficacy has a positive impact on Work motivation*

Self-efficacy reflects an individual's confidence in their ability to perform specific tasks, and this psychological trait has a direct impact on work motivation. In the university context, self-efficacy serves as a vital source of inner strength for lecturers in coping with the pressures of teaching and research. Lecturers with a strong sense of self-efficacy are better able to withstand setbacks and are more willing to remain committed to their work. The research of Zhou et al. (2025) found that a sense of teaching efficacy can predict teachers' emotional engagement in classroom interactions. A study by Kowalczyk-Wałędziak et al. (2024) also indicates that teachers' confidence in their own academic potential translates into a stable and enduring motivation for research. These studies demonstrate that a strong sense of self-belief is a key foundation for teachers to maintain their professional enthusiasm.

Self-efficacy encompasses not only teachers' cognitive assessment of their own abilities, but also their motivation to achieve their goals. When teachers are faced with research challenges or changes in teaching practices, a strong sense of efficacy can alleviate professional burnout and enhance their sense of competence. This psychological advantage will encourage teachers to proactively push the boundaries of their academic work and continuously increase their commitment to their profession (Li, 2022). With universities currently facing fierce academic competition and frequent changes to evaluation systems, it is only by maintaining a steady sense of professional confidence that lecturers can better cope with the pressures of assessment and continue to produce research outcomes. Based on the above literature, this study proposes the fifth hypothesis:

H5 : Self-efficacy has a significant positive effect on work motivation

2.2.4. *The mediating role of Self-efficacy*

The career development environment in higher education institutions provides important resources for staff development, but external resources do not automatically translate into sustained motivation. Social cognitive theory posits that external opportunities first influence an individual's beliefs about their abilities, and subsequently affect their behavioural performance. Lin (2022) found that transparent promotion mechanisms can enhance teachers' sense of professional autonomy. Shao (2023) also point out that a strong sense of self-efficacy is an important psychological foundation for maintaining teachers' academic enthusiasm. These studies suggest that, in order to progress from perceiving resources to achieving a state of high engagement, teachers need to

go through a process of affirming their own capabilities. Once teachers have been provided with a clear career path and a high-quality research platform, they often translate this support into confidence in their own academic abilities. If teachers believe they can overcome research bottlenecks, they will be better able to overcome their apprehension and maintain a consistent level of commitment. Young teachers place particular importance on opportunities to realise their potential within an organisation; they value tangible career progression and recognition of their professional worth. Teachers can only develop sustained and stable work motivation by continually reinforcing their self-esteem through external support (Alimbekov et al., 2025). It is clear, therefore, that a career development environment first enhances teachers' self-efficacy, which in turn further boosts their work motivation. On this basis, this study proposes the sixth hypothesis:

H6: Self-efficacy mediates the relationship between Career development and Work motivation

Compared to the broad-based impact of career development, career support has a more nuanced effect on work motivation and relies more heavily on psychological processes. Social support theory posits that external assistance does not directly translate into motivation to work, but rather first influences the individual's psychological state. De Weerd et al. (2024) found that collaborative support within academic teams can enhance teachers' sense of efficacy in research. Ifnuari (2025) also point out that this sense of self-efficacy is a key factor in helping teachers maintain their energy amidst heavy teaching workloads. These studies suggest that teachers need to go through a process of psychological empowerment before they can move from receiving support to developing a passion for their work. When university lecturers receive research funding,

support for teamwork or administrative assistance, they typically interpret this support as recognition by the organisation of their own capabilities. Once teachers feel this trust, it can alleviate their anxiety when facing assessment pressures and enhance their sense of control over their work (Deng & Liu, 2025). If teachers believe they have the ability to meet academic challenges, they are more likely to remain committed to teaching and research. In other words, support in itself does not directly lead to a high level of commitment; what really makes a difference is the self-efficacy that such support reinforces. Self-efficacy transforms external support into intrinsic motivation and converts organisational resources into sustained action. On this basis, this study proposes the seventh hypothesis:

H7: Self-efficacy mediates the relationship between career support and work motivation

2.3 Research framework

The current higher education landscape is characterised by transformative challenges and performance pressures. Against this backdrop, this study examines how career development and career support jointly influence university lecturers' work motivation, whilst analysing the underlying psychological mechanisms. This study adopts a social cognitive theory perspective, identifying self-efficacy as the core psychological variable, and thereby constructs a research model comprising four key constructs: career development, career support, self-efficacy and work motivation. Each of these four constructs fulfils a specific function within the model. Career development refers to the tangible

opportunities available to university lecturers in terms of professional growth, skills enhancement and promotion. These opportunities provide lecturers with a clear direction for their commitment to teaching and research. Career support encompasses the resources, feedback and emotional support provided by the university, the faculty and colleagues. These external resources offer staff a safety net as they cope with their heavy workload. Self-efficacy measures teachers' belief in their ability to complete academic tasks and overcome professional challenges. This inner conviction acts as the psychological linchpin for transforming external support. Work Motivation represents the ultimate outcome. This enthusiasm is a clear reflection of the teachers' commitment and sustained effort in their day-to-day work.

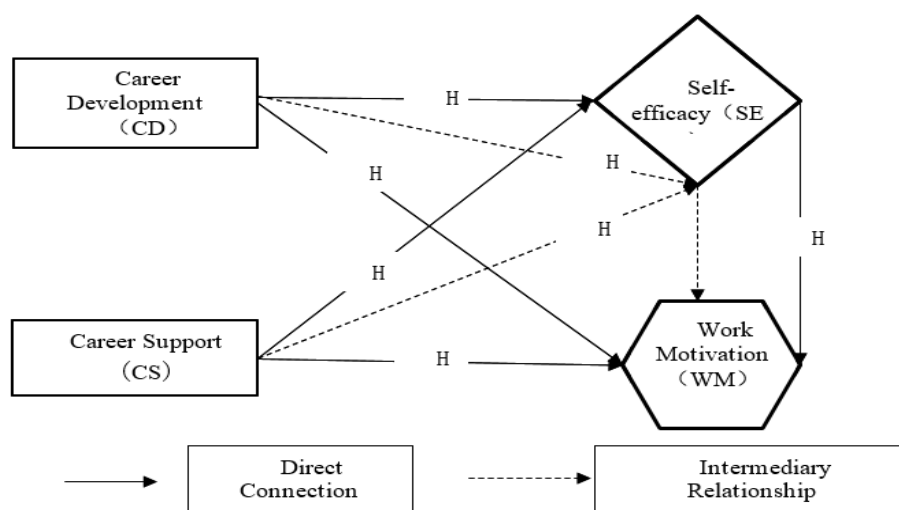


Figure 1: Construct reliability and validity

Based on the theoretical reasoning outlined above, this study proposes the following research framework: Career Development and Career Support each have a positive effect on Self-efficacy (H1, H2), whilst these two antecedent variables also have a direct positive effect on Work Motivation (H3, H4). Self-efficacy has a positive effect on Work Motivation (H5). Furthermore, self-efficacy mediates the relationship between career development and work motivation (H6), and self-efficacy also mediates the relationship between career support and work motivation (H7). The framework clearly illustrates the underlying logic behind the development of work motivation among university lecturers. The findings of this study also provide empirical guidance for university administrators seeking to optimise career development pathways and support systems for lecturers.

3. METHODOLOGY

3.1. Participants

This study takes university lecturers within the Chinese higher education system as its research

population, focusing on serving lecturers engaged in teaching and research within a university context. It aims to analyse the mechanisms through which career development, professional support and self-efficacy influence lecturers' work engagement. The study focuses on individual university lecturers who meet specific criteria regarding years of service and professional titles. Specifically, this study conducted a questionnaire survey between November 2025 and January 2026, with a total sample of approximately 2.074 million university lecturers across China, covering 23 provinces in the eastern, central and western regions of the country. The research team selected 22 university lecturers from each province using a random sampling method, resulting in a final sample of 506 lecturers. To ensure that participants have a relatively stable professional background and organisational experience, this study has established the following inclusion criteria: respondents must have at least 10 years' teaching experience in higher education and hold the academic rank of Lecturer or above. The above criteria help to ensure that teachers form a well-informed judgement regarding career

development opportunities, organisational support measures and self-efficacy, thereby enhancing the validity and explanatory power of measurements of variables related to work motivation. The study is not restricted to specific academic disciplines or types of institutions; however, respondents must have been in active service during the survey period in order to provide a more accurate reflection of their actual work commitment and behavioural tendencies.

3.2. Instruments

This study employed a structured questionnaire to collect data; the questionnaire consisted of two parts. The first section covers sample characteristics; respondents are asked to provide details of their gender, age, length of service, professional title and province of employment, which will be used to

describe the sample structure and facilitate comparative analysis across groups. Part Two focuses on the measurement of core variables. The questionnaire comprises four dimensions: career development, career support, self-efficacy and work motivation, with each dimension containing three items, making a total of 12 items. All items are scored on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The wording of the items is based on the everyday teaching and research contexts of university lecturers, and respondents are asked to answer according to their own actual experiences. The study involves pilot testing and revising the wording of the questionnaire prior to its official distribution, in order to ensure that the items are clear and comprehensible, and to enhance the reliability and validity of the measurement.

Table 3.1: Construct Scale

Indicator	Cod	Survey Content	References
Career Development (CD)	CD1	I have a clear plan and long-term goals for my teaching career over the next three to five years.	Stephen (2024)
	CD2	I have a clear understanding of the promotion opportunities and career progression pathways available to me within the school.	Smithwick et al. (2023)
	CD3	I am able to plan my own academic development with a high degree of autonomy, based on my strengths and professional interests.	Jerrim et al. (2023)
	CD4	I believe that my current teaching and research work is challenging and will significantly enhance my core professional skills.	Almazroa and Alotaibi (2023)
	CD5	I am optimistic and satisfied with my current career progression and future prospects.	Zeng et al. (2022)
Career Support (CS)	CS1	The university/faculty places great emphasis on the career development of its teaching staff and has introduced corresponding policy measures to support this.	Doğan and Arslan (2024)
	CS2	The school regularly provides me with opportunities for specialised training, further study or academic exchanges to enhance my professional skills.	O'Dowd and Dooly (2022)
	CS3	In my career development and day-to-day work, I regularly receive care, guidance and support from my managers.	Richard and Kim (2024)
	CS4	My colleagues get on well with one another and are able to help each other and share experiences in teaching and research.	McPherson and Asghar (2025)
	CS5	The university has provided me with an excellent academic environment and ample resources (such as funding and databases) to support my research.	Liu et al. (2025)
Self-efficacy (SE)	SE1	I believe I possess sufficient professional knowledge and skills to carry out my current teaching duties with ease and to a high standard.	ElSayary (2023)
	SE2	When faced with challenges in the field of scientific research or when applying for research grants, I am confident in my ability to find solutions and achieve results.	Hallsworth (2023)
	SE3	Even in the face of external changes such as increased work pressure or restructuring at the school, I am confident that I will be able to handle the situation effectively.	Maag Merki et al. (2023)
	SE4	I believe I have the ability to identify opportunities for innovation within routine, repetitive tasks and thereby enhance the value of my work.	Singh (2024)
	SE5	I believe I have excellent time management skills and am able to juggle and balance a heavy workload with family life.	Sharma et al. (2025)
Work Motivation (WM)	WM1	I always throw myself into my daily teaching, research and student mentoring with great enthusiasm.	Seals (2022)
	WM2	In order to realise my professional aspirations and long-term goals, I am willing to devote additional time and effort to my work.	Cormier et al. (2025)
	WM3	In addition to my regular duties, I am willing to take the initiative to apply to the university or faculty to take on additional and more significant responsibilities.	Møgelvang et al. (2025)
	WM4	Even without external supervision or the pressure of performance reviews, I would still carry out all my teaching and research duties conscientiously, on time and to a high standard.	Spielmann et al. (2022)
	WM5	I often take stock of my work and reflect on it at the end of each term, actively seeking ways to improve my teaching and research methods.	Wahid et al. (2023)

3.3. Sample and data collection

This study focuses on university lecturers. According to official statistics, the total number of university lecturers in China is approximately 2.074 million. To determine a reasonable sample size, this study draws on the recommendations of Krejcie and Morgan (1970), which suggest that, where the population size is large, obtaining 384 or more valid questionnaires is sufficient to meet the basic requirements of statistical analysis. During the data collection phase, the research team conducted a questionnaire survey across 23 provinces nationwide between November 2025 and January 2026, selecting 22 university lecturers from each province through random sampling, with a total of 506 questionnaires initially distributed. After the questionnaires were returned, the research team checked them for completeness and consistency, discarding invalid questionnaires containing missing responses, logical inconsistencies or obvious carelessness, and ultimately obtained 482 valid questionnaires. The effective sample size exceeded the specified minimum requirement, providing a data foundation

for subsequent reliability and validity tests and structural equation modelling.

4. RESULTS

4.1. Sample Analysis

This study focuses on the career development of university lecturers. The research team used SPSS 26.0 (Purohit et al., 2023) to pre-process the questionnaire data and to test the reliability and validity of the measurement instruments, in order to ensure that the scales could reliably and accurately reflect the research variables. With regard to reliability assessment, this study employs Cronbach's alpha (Forero, 2023) to test the consistency of items within each dimension, and, in conjunction with composite reliability (CR) (Cheung et al., 2024), further assess the internal consistency of the latent variable measurements. Using the above indicators, the research team systematically assessed the reliability and measurement quality of the questionnaire, thereby laying the groundwork for subsequent model testing and empirical analysis.

Table 4.2: Reliability and Validity Test Table

Dimension	Variable	Factor Load	Cronbach'a	CR Value	AVE Value
Career Development (CD)	CD1	0.749	0.861	0.848	0.583
	CD2	0.794			
	CD3	0.763			
	CD4	0.748			
	CD5	0.795			
Career Support (CS)	CS1	0.772	0.875	0.867	0.619
	CS2	0.770			
	CS3	0.764			
	CS4	0.791			
	CS5	0.788			
Self-efficacy (SE)	SE1	0.781	0.881	0.864	0.613
	SE2	0.788			
	SE3	0.794			
	SE4	0.798			
	SE5	0.800			
Work Motivation (WM)	WM1	0.739	0.857	0.850	0.587
	WM2	0.768			
	WM3	0.750			
	WM4	0.767			
	WM5	0.779			

As can be seen from the results in the table above, all measurement dimensions demonstrate good internal consistency and convergent validity. Specifically, the Cronbach's α coefficients for each factor ranged from 0.857 to 0.881, all exceeding the commonly accepted threshold of 0.80. This indicates a high degree of consistency among items within the same dimension, suggesting that the scale's reliability is satisfactory. At the same time, the composite reliability (CR) ranged from 0.848 to 0.867, with all

values exceeding 0.80, further confirming the stability and reliability of the latent variable measurements. In terms of convergent validity, the average variance extracted (AVE) for each factor ranged from 0.583 to 0.619, all exceeding the recommended threshold of 0.50. This indicates that each dimension accounts for a high proportion of the variance in its items, and that the measurement indicators demonstrate a good degree of aggregation with respect to the latent variables. Taking into account the results of

Cronbach's α , CR and AVE, it can be concluded that the questionnaire used in this study meets the requirements for empirical research in terms of both reliability and validity, thereby providing a reliable measurement basis for subsequent correlation analyses and model testing.

4.2. Factor Analysis

To further assess the construct validity of the scale and determine whether the questionnaire data were suitable for factor analysis, this study conducted a KMO (Kaiser-Meyer-Olkin) test and Bartlett's test of sphericity on the collected sample data.

Table 4.2: Principal Component Analysis

	CD	CS	SE	WM
CD1			0.749	
CD2			0.794	
CD3			0.763	
CD4			0.748	
CD5			0.795	
CS1		0.772		
CS2		0.770		
CS3		0.764		
CS4		0.791		
CS5		0.788		
SE1	0.781			
SE2	0.788			
SE3	0.794			
SE4	0.798			
SE5	0.800			
WM1				0.739
WM2				0.768
WM3				0.750
WM4				0.767
WM5				0.779
KMO	0.911			
χ^2	4729.733			
df	190			
Sig.	0.000			
Eigenvalue	6.966	2.29	2.089	1.858
Percentage of variance	34.829	11.448	10.446	9.29
Cumulative variance percentage	34.829	46.277	56.723	66.013

As can be seen from the analysis of the data in the table above, the KMO value for this measurement is 0.911. According to standard statistical measures, the KMO value ranges from 0 to 1. A value greater than 0.7 is generally considered to indicate that the data is suitable for factor analysis; a value greater than 0.8 is regarded as good; and a value greater than 0.9 indicates a very strong correlation between variables, signifying that the data has reached an excellent level of 'extreme suitability' for factor analysis. The KMO value in this study was as high as 0.911, well above the standard threshold of 0.7, indicating excellent sample adequacy.

At the same time, the results of the Bartlett's test of sphericity show an approximate chi-squared value of 4729.7 with 190 degrees of freedom (df), and the corresponding significance level (P-value) is necessarily below the strict threshold of 0.001. This successfully rejected the null hypothesis that the variables are independent of one another, providing clear evidence of significant internal correlations

between the various items in the questionnaire, and further confirming the validity and scientific rigour of the factor analysis.

Furthermore, during the factor extraction process, the cumulative percentage of variance explained by the data as a whole reached 66.01%. In the field of empirical research in the social sciences and organisational behaviour, a cumulative variance explained of over 60% is generally regarded as the ideal benchmark. The figure of 66.01% in this study not only exceeds this empirical benchmark but also indicates that the extracted factors—Career Development, Career Support, Self-efficacy and Work Motivation—effectively capture and explain the vast majority of the information contained in the original questionnaire data, with a low rate of information loss. A comparison of the above core indicators with their standard values clearly demonstrates that the scale used in this study possesses excellent construct validity, thereby laying a solid data foundation for subsequent in-depth empirical testing.

4.3. Correlation analysis

In order to explore the intrinsic relationships between the core variables in greater depth, this

study employed Pearson's correlation analysis to conduct bivariate correlation tests on the questionnaire data.

Table 4.3: Results of the correlation analysis between the various factors

Factors		CD	CS	SE	WM
CD	Pearson correlation	1	.372**	.363**	.360**
	Sig. (two-tailed)		.000	.000	.000
	N	482	482	482	482
CS	Pearson correlation	.372**	1	.357**	.436**
	Sig. (two-tailed)	.000		.000	.000
	N	482	482	482	482
SE	Pearson correlation	.363**	.357**	1	.348**
	Sig. (two-tailed)	.000	.000		.000
	N	482	482	482	482
WM	Pearson correlation	.360**	.436**	.348**	1
	Sig. (two-tailed)	.000	.000	.000	
	N	482	482	482	482
* At the 0.01 level (two-tailed), the correlation is significant.					
* At the 0.05 level (two-tailed), the correlation is significant.					

The results from the correlation matrix table above show that all pairs of the four core variables – career development, career support, self-efficacy and work motivation – among university lecturers exhibit statistically highly significant positive correlations ($p < 0.01$). This overall trend suggests that, within the professional ecosystem of higher education, there is a close synergy and mutual reinforcement between lecturers' career development opportunities, the external support they receive, their internal psychological efficacy, and their external work enthusiasm.

Specifically, this strong correlation is particularly evident between the three independent variables and the dependent variable (work motivation). Firstly, there is a significant positive correlation between career development and work motivation among university lecturers ($r = 0.360$, $p < 0.01$). This suggests that when lecturers perceive that they have a clear career plan, unobstructed promotion pathways and good prospects for development, they tend to demonstrate a higher level of work engagement (Assefa et al., 2023). Secondly, the positive correlation between career support and work motivation was the most pronounced ($r = 0.436$, $p < 0.01$). This higher figure clearly demonstrates that external support resources – such as policy safeguards at school level, leadership support and professional assistance from colleagues – are key drivers of teachers' motivation; the greater the level of external support, the higher the teachers' motivation (Gao et al., 2025). Finally, self-efficacy was also found to have a significant positive correlation with work motivation ($r = 0.348$, $p < 0.01$) ...indicating that the greater a teacher's confidence in their own teaching and research abilities, the more likely they

are to adopt a proactive attitude in their day-to-day work and to embrace various academic and teaching challenges (Wang et al., 2023).

Taken together, the findings of the above analyses not only align with the predictions of classical theories in organisational behaviour and educational psychology, but also provide preliminary empirical support for the core theoretical hypotheses put forward in this study. The clear and significant positive correlations between the variables provide strong evidence for the validity of using career development, career support and self-efficacy as predictors of work motivation; they also lay a solid statistical foundation for subsequent multiple regression analyses aimed at further elucidating the underlying mechanisms of influence and causal relationships between the variables.

4.4. Model development

Having established that there are significant correlations between the core variables, this study further employs Structural Equation Modelling (SEM) to conduct an in-depth validation of the theoretical hypotheses (Bajjou & Chafi, 2025). Previous correlational analyses have provided an initial understanding of the covariations between various factors, whereas structural equation modelling is able to effectively control for measurement error and thus more accurately depict the complex causal pathways and underlying mechanisms between multiple variables. Through goodness-of-fit assessments and path analysis of the empirical data, this study has not only successfully validated the direct and indirect relationships between the latent variables, but has also scientifically and rigorously established the overall

theoretical model and empirical analytical framework of this research. The development of this framework has clarified the logical relationships between the various factors, providing a solid

methodological and empirical foundation for further exploration of the underlying mechanisms linking career development and work motivation among university lecturers.

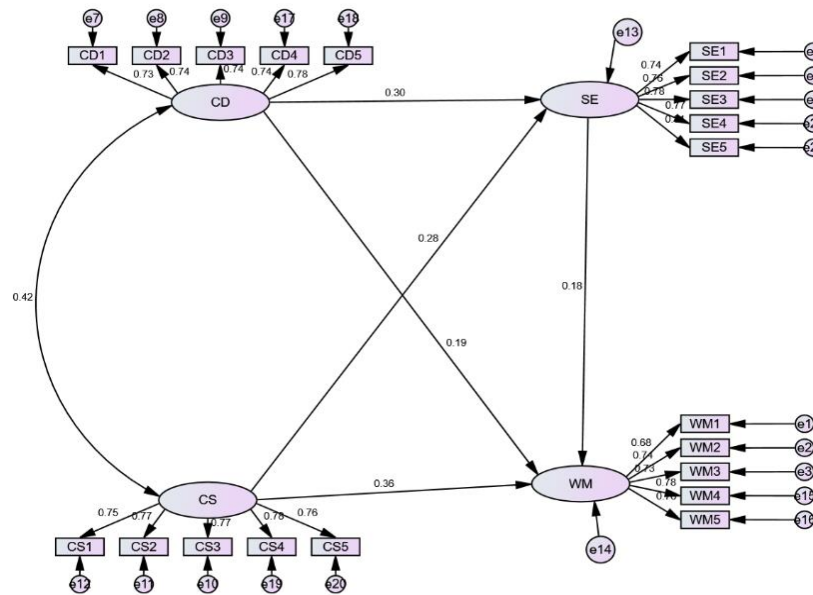


Figure 4.1: Structural Equation Model

According to the research, the model’s fit indices were assessed comprehensively from multiple perspectives, as shown in the figure below.

Table 4.3: Goodness-of-Fit Indices for the Structural Equation Model (n=482)

Measurement model	χ^2/df	GFI	AGFI	NFI	CFI	RMSEA
Evaluation indicators	<5	>0.90	>0.90	>0.90	>0.90	<0.08
Outcome model	1.422	0.954	0.941	0.950	1.000	0.030

As can be seen from the table above, the chi-squared-to-degrees-of-freedom ratio (χ^2/df) for the structural equation model in this study is 1.422, which is significantly lower than the critical value of 5; key fit indices such as GFI and CFI all range between 0.941 and 1.000, achieving an excellent level of over 0.9; the root mean square error of approximation (RMSEA) was as low as 0.001, meeting the strict requirement of being less than 0.08. Taking all the data into account, the theoretical model is in close agreement with the empirical data, and the overall goodness of fit is excellent. This clearly demonstrates that the model is both scientifically sound and effective, and can be directly applied to the precise testing of subsequent specific mechanisms of action and mediating effects.

4.5. Path Analysis

The statistical analysis of this path analysis adheres to rigorous statistical standards. Firstly, the direction and strength of the relationships between variables are assessed on the basis of standardised path coefficients. More importantly, the significance of the effect must satisfy a two-fold test: that is, the p-value must be less than the significance level of 0.05, and the 95% confidence interval must not include zero. Only when both of these requirements are met can the path effect be deemed to exist and to be statistically significant; otherwise, regardless of the magnitude of the coefficient, the path hypothesis is considered to be rejected.

Table 4.4.: Analysis of Main Effects for Variables

Hypothetical	Path			Estimate	95% Confidence Interval		P	Conclusion
H1	Career Development	→	Self-efficacy	0.302	0.186	0.411	0.011	Support
H2	Career support	→	Self-efficacy	0.279	0.182	0.397	0.005	Support
H3	Career Development	→	work motivation	0.187	0.09	0.286	0.012	Support
H4	Career support	→	work motivation	0.357	0.259	0.457	0.006	Support
H5	Self-efficacy	→	work motivation	0.177	0.099	0.289	0.005	Support

As shown in the path analysis results table, this study conducted an empirical examination of the logical relationships between career development, career support, self-efficacy and work motivation among university lecturers. The results indicate that all five paths specified in the model exhibit a statistically significant positive effect.

Firstly, in terms of predicting 'self-efficacy', the path coefficients for 'Career Development' ($\beta = 0.302$, $P = 0.011$) and 'Career Support' ($\beta = 0.279$, $P = 0.005$) were both significant, and the 95% confidence intervals (CI) for both did not include zero, indicating that effective career planning and external support can significantly enhance teachers' professional self-confidence.

Secondly, in terms of the influence on the core dependent variable 'work motivation', the direct effect of career support was the most pronounced,

with a path coefficient of 0.357 ($P = 0.006$), making it the most significant external factor driving motivation. At the same time, Career Development ($\beta = 0.187$, $P = 0.012$) and Self-efficacy ($\beta = 0.177$, $P = 0.005$) also exerted a significant positive influence on work motivation.

In summary, all paths passed the significance test, thereby fully validating the research hypothesis. The results indicate that career development and career support not only directly enhance teachers' work motivation, but also exert a profound influence by reinforcing self-efficacy, an intrinsic psychological variable. This finding provides scientific empirical evidence to assist higher education institutions in formulating management strategies and optimising faculty support systems. Consequently, hypotheses H1, H2, H3, H4 and H5 are supported.

Table 4.5: Mediating Effect Analysis

Hypothetical	Path	Estimate	95% Confidence Interval		P	Conclusion
H6	Career Development→Self-efficacy→work motivation	0.056	0.021	0.117	0.009	Support
H7	Career support→Self-efficacy→work motivation	0.097	0.058	0.149	0.006	Support

This study used the Bootstrap method to conduct an in-depth examination of the significance of 'self-efficacy' in the mediating pathway. The findings provide strong evidence that self-efficacy plays a positive mediating role in the relationships between career development, career support and work motivation.

Firstly, in the 'Career Development → Self-efficacy → Work Motivation' pathway, the mediating effect coefficient is 0.056, The p-value is 0.009 (less than 0.01), and the 95% confidence interval is [0.021, 0.117]; as the interval does not include 0, this implies that career development can indirectly enhance teachers' work motivation by boosting their self-efficacy. Secondly, in the 'Career support → Self-efficacy → Work motivation' pathway, the mediation coefficient was 0.097, with a p-value of 0.006 and a 95% confidence interval of [0.058, 0.149], which likewise does not include zero. A comparison shows that the indirect effect of career support via self-efficacy (0.097) is slightly higher than that of career development.

In summary, both mediating pathways have been empirically supported. This suggests that self-efficacy serves as a key psychological bridge linking the external environment (career support) and personal planning (career development) to ultimate work performance (work motivation). When seeking to boost staff motivation, higher education institutions should not only provide external support and opportunities for development, but should also focus on using these measures to strengthen staff's

inner confidence and sense of efficacy, thereby achieving the best possible motivational outcomes (Bandura, 2023). In summary, Hypotheses H6 and H7 are supported.

5. DISCUSSION

The findings of this study validate the applicability of social cognitive theory in the current context of higher education reform; they also reveal the unique psychological mechanisms through which teaching staff cope with performance pressures. The research team constructed and tested a model of the drivers of work motivation among university lecturers. The team regarded lecturers' commitment to teaching and research as the result of the interaction between external resources and internal beliefs. From this perspective, the researchers conducted an in-depth analysis of the psychological pathways involved when teachers undertake complex academic tasks. In the empirical section, this paper employs a quantitative analytical model to demonstrate the relationships between four core constructs. These four constructs encompass Career Development, Career Support, Self-efficacy and Work Motivation. The results of the data analysis clearly demonstrate the multivariate correlations and causal pathways between the variables. The empirical data confirms the underlying logic that external support drives positive behaviour among teachers. The findings confirm the practical effectiveness of the Career Support system within the context of local higher education institutions. These findings also shed

further light on the cognitive mechanisms through which staff transform career resources into work engagement. This section summarises the specific empirical findings as follows:

5.1. Career development and career support have a positive impact on self-efficacy

The results of the data analysis confirm that career development can significantly enhance university lecturers' self-efficacy. Statistical data indicate that a well-developed career development system is a key factor in boosting lecturers' professional confidence. Specifically, structured professional training has directly stimulated teachers' willingness to innovate in their teaching and enhanced their ability to integrate technology (Stumbrienė et al., 2024). The current transformation in education requires teachers to tackle complex digital teaching tasks; relying solely on traditional experience is no longer sufficient to meet these demands. The research team found that by participating in practical professional development, teachers can effectively master advanced teaching strategies and cutting-edge research methods. This professional development pathway helps teachers rapidly enhance their core skills in diverse teaching environments; these solid professional skills enable teachers to develop a strong sense of professional competence (Edu (2025)). In the process of assimilating this knowledge, teachers have strengthened their professional identity, thereby significantly enhancing their self-efficacy in tackling academic challenges.

On the other hand, career support has effectively fostered psychological resilience and a sense of professional purpose among university lecturers. As a key external resource, career support directly enhances lecturers' ability to regulate their emotions when dealing with intense performance-related pressure (Kamola (2024)). Empirical data suggests that teachers are able to successfully overcome psychological barriers in their career development by drawing on feedback from organisational resources and emotional support from colleagues. A robust social support network significantly alleviates the psychological strain teachers face when dealing with demanding research assessments. A supportive organisational environment encourages teachers to firmly establish positive career goals (Pisriwati et al., 2024). Researchers have found that support mechanisms such as mentoring and dynamic assessment provide teachers with a constant source of motivation to overcome difficulties. This process of transforming external resources into internal psychological empowerment has effectively strengthened teachers' sense of control over their own academic careers, ultimately fostering a robust sense of self-efficacy.

5.2. Career development and career support have a positive impact on work motivation

Career development opportunities can significantly boost university lecturers' work motivation. Research findings indicate that a well-developed career development system is a key factor in enhancing lecturers' commitment to their work (Cakir & Spector, 2026). Structured professional training has not only stimulated teachers' willingness to innovate in their teaching, but has also strengthened their commitment to research. Against the backdrop of the current transformation in higher education, lecturers are required to tackle academic tasks that are more complex than ever before. By participating in high-calibre academic programmes, lecturers can acquire cutting-edge research methods and teaching strategies. This career development pathway enables lecturers to define their own professional goals within a competitive environment. A clear promotion system further stimulates teachers' intrinsic motivation to achieve (Uysal, 2023). As teachers enhance their professional capabilities, their sense of professional identity continues to grow; this mindset ultimately translates into the high level of enthusiasm they demonstrate in their day-to-day work.

On the other hand, a comprehensive career support system has effectively strengthened the sense of dedication among university lecturers. The various resources provided by the institution serve as a vital foundation for lecturers to maintain their intrinsic motivation, and directly determine their mindset when facing rigorous assessments (Li et al., 2025). By making use of the material resources provided by the school and the expert guidance of their mentors, teachers are able to successfully overcome the various obstacles they encounter during their academic exploration. A well-developed social support network alleviates the psychological pressure on teachers and effectively prevents the onset of burnout. A supportive organisational environment fosters a strong sense of academic belonging among staff, whilst institutional safeguards and a caring approach provide ongoing psychological support to help them overcome difficulties (Montgomery & Cooper, 2024). This transition from external support to internal emotional commitment strengthens teachers' professional commitment, prompting them to perform even better in their roles.

5.3. University lecturers' self-efficacy has a positive impact on their work motivation

A wealth of empirical evidence demonstrates that self-efficacy significantly enhances work motivation

among university lecturers. This psychological trait plays a crucial role in bridging the gap between lecturers' professional aspirations and their actual commitment to their work. A high level of self-efficacy motivates teachers to translate their inner professional aspirations into tangible academic achievements (Calkins et al., 2024). Teachers who possess strong self-confidence are often better able to handle heavy research workloads with ease and adapt flexibly to the various challenges of digital teaching. In the modern higher education environment, teachers must not only fulfil their basic teaching duties but also possess strong self-management skills. By continuously strengthening their self-efficacy, teachers have significantly enhanced their sense of innovation and professional well-being; this intrinsic psychological drive effectively transforms their personal confidence into outstanding teaching performance (Singh & Garg, 2025). This positive psychological process ultimately led to a significant increase in teachers' enthusiasm for their work.

5.4. *The mediating role of self-efficacy*

Several studies have shown that self-efficacy plays a key role in the career development of university lecturers and student engagement. As part of their ongoing career development, teachers continuously enhance their teaching skills and digital literacy through participation in training courses, research projects and teaching reform initiatives (Kerkhoff & Makubuya, 2022). Through reflection and practice, teachers gradually develop a stable belief in their own abilities; this belief enhances their self-efficacy when faced with complex classroom situations. Teachers with higher levels of self-efficacy are more likely to adopt interactive teaching methods, project-based learning and blended learning approaches. The confidence, commitment and professional judgement demonstrated by teachers in the classroom have a direct impact on pupils' motivation and willingness to participate, and further enhance their engagement in discussions, collaborative work and independent learning (Ateş & Koroğlu, 2024). Consequently, the effectiveness of teachers' career development, through the psychological mechanism of self-efficacy, further enhances student engagement.

At the same time, self-efficacy plays a significant role in the relationship between career support and work motivation. If universities can provide research resources, reduced course workload, platforms for teamwork and emotional support, teachers will find it easier to experience success and receive positive feedback. In such a supportive environment, teachers will gradually develop a firm confidence in their own

teaching and research abilities (Cojorn, 2024). A strong sense of self-efficacy can help teachers cope better with the pressures of assessment, role conflicts and institutional changes. Teachers will therefore not remain passive, but will proactively plan their career development, adapt their teaching methods and seek opportunities for innovation. Career Support helps to transform external resources into internal motivation and sustained commitment by strengthening teachers' sense of efficacy (Shu, 2022). As this effect accumulates over time, teachers are more likely to develop a stable sense of professional commitment and demonstrate a higher level of initiative and responsibility in their teaching and research activities.

6. RESEARCH CONTRIBUTIONS, IMPACT AND LIMITATIONS

6.1. *Research Contributions*

The theoretical contributions of this study are primarily reflected in three aspects. Firstly, this paper applies social cognitive theory to the context of university lecturers' career development and incorporates self-efficacy into the overall analytical framework. Previous research has largely focused on the direct impact of individual variables on teacher performance, with little attention paid to the interrelationships between career development, career support and psychological factors. This paper explains how teachers transform external support into sustained motivation for their work; this finding enriches the interpretative framework for research into the professional behaviour of university lecturers.

Secondly, this paper further expands on the theoretical scope of career support for university lecturers. The organisational support, collegial cooperation and leadership support provided by the institution not only improve lecturers' working conditions but also influence their assessment of their own capabilities. Research findings indicate that only when teachers develop a strong sense of self-efficacy can they truly translate external support into teaching commitment, research activities and professional identity.

Finally, this paper sheds light on the psychological processes at work among university lecturers in a complex academic environment. As university lecturers face multiple pressures—including teaching, research and performance appraisals—on a long-term basis, their career development requires both institutional safeguards and stable psychological support. The findings reveal a relatively clear mechanism, whereby career development and career support first influence

teachers' self-efficacy, which in turn influences their positive work engagement. This finding provides new empirical evidence for understanding the drivers of professional development and behavioural choices among university lecturers.

6.2. Research Impact

The findings of this study offer important insights for the development of university teaching staff and human resource management. Firstly, when formulating staff development policies, university administrators should not focus solely on financial investment, but should also place greater emphasis on enhancing staff competence and self-efficacy. When providing career support, the university should design more targeted training programmes and research funding schemes that address the genuine needs of staff in teaching and research, whilst minimising support initiatives that are merely token gestures.

Secondly, when creating an organisational environment, universities need to strike the right balance between performance pressure and emotional support. Research indicates that self-efficacy plays a key role in the relationship between career support and work motivation; therefore, schools must not only ensure the efficient provision of resources and the effective operation of systems, but also demonstrate respect and trust for teachers through communication and management. Faculties and departments can help staff find support through collaboration by building stable academic teams, promoting mentor-mentee pairings and peer support, thereby enhancing their sense of belonging and empowerment.

Finally, university management needs to improve the precision and continuity of career support. When allocating training opportunities, research resources and performance indicators, the Human Resources Department should take full account of the differing needs of staff across disciplines, age groups and seniority levels, and prioritise the allocation of resources to those staff members facing greater developmental challenges or demonstrating higher potential. Schools could also establish regular

platforms for academic exchange, thereby gradually fostering a more robust ecosystem for teacher development, characterised by a more comprehensive support system and a more conducive atmosphere for collaboration.

6.3. Research Limitations

Although this study has achieved some results, there are still certain shortcomings in the research design; further research could build on this foundation to explore the subject in greater depth. Firstly, this study focuses primarily on lecturers at local public universities. As different types of universities vary in terms of their institutional positioning, resource availability and performance appraisal systems, these differences may influence lecturers' understanding of career development and career support. Future research could extend the sample to include different types of higher education institutions, such as research universities and vocational colleges, and use comparative analysis to assess the scope of application of the findings. Secondly, the sample in this study consists primarily of young teachers, a group that is relatively homogeneous in terms of career stage, self-efficacy and policy sensitivity; however, teachers with different lengths of service, professional titles and disciplinary backgrounds may have differing career needs and preferences regarding support. Future research should expand the sample to include middle-aged and senior teachers, and further examine the impact of demographic variables. Finally, this study focuses primarily on the analysis of career development, career support and self-efficacy, and has not yet fully taken into account contextual factors such as perceived organisational support, academic atmosphere and pressure to perform. Future research could incorporate additional mediating and moderating variables to construct a more comprehensive analytical framework, thereby providing a deeper understanding of the mechanisms underlying teachers' psychological states and behaviours in a university context.

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