

Research attitude, motivation, and productivity of university teachers in China: Basis for an enhanced research development plan

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Abstract

The study evaluated the research attitude, motivation and productivity among university teachers in China. It described the profile of the respondents in terms of sex, age, highest educational attainment and research experiences; determined the respondents' research attitude in terms of university mission, research orientation, rewards and incentives, personal interest, and research utilization; identified the respondents' research motivation in terms of extrinsic and intrinsic motivations; assessed the respondents research productivity as to importance and impact; tested the differences in responses when grouped according to profile variables; tested the significant relationships among variables research attitude, motivation, and productivity; and finally, based on the results of the study, proposed an enhanced faculty development research program. The descriptive method was used in this study with 500 teachers who have experienced research activities in their teaching activities as participants of the study. These teachers are from three institutions of higher learning in Hunan Province, China. Reliable and validated questionnaire was employed to gather data. The gathered data was analyzed using a one-way ANOVA, t-test, and a quantitative descriptive study technique. Based on the findings, majority of the respondents are male aged 26-35 years old with a Bachelor's degree having 3-6 years of research experience. Most of the respondents had positive impressions on indicators affecting motivations, research productivity as to importance and impact. There were no significant differences on responses when it comes to gender, age, highest educational attainment, and research experience. There was a highly significant relationship among variables research attitude, motivation, and productivity. Recommendations for future research were proposed to facilitate the exploration of additional challenges and obstacles related to research attitude, motivation, and productivity among Chinese university teachers.

Keywords: research attitude, research motivation, research productivity

Research attitude, motivation, and productivity of university teachers in China: Basis for an enhanced research development plan

1. Introduction

Obtaining insights into the attitudes, motivations, and productivity of university teachers is essential for improving the standard of education offered to learners. Institutions may improve the overall learning experience by identifying the elements that influence teaching and research success and implementing focused interventions. Studies on attitude, motivation, and productivity among university professors in China have addressed several elements related to academic labor, such as instruction, investigation, and support. Developing an understanding of these aspects is critical for improving the norms of education and fostering the generation of knowledge in Chinese higher education organizations. Investigating the driving factors that influence university professors in China may offer a glimpse into what motivates and maintains their involvement in both academic and research endeavors. This encompasses internal motivators, including enduring fascination in the topic at hand, outside influences such as accolades and incentives, and organizational components such as organizational support and opportunities for career development. By exploring these subject disciplines, researchers may expand students' understanding of the components that govern university teachers' attitudes, motivations, and productivity in China. This information may then be utilized to inform policy decisions, improve teaching practices, and inspire prospective academic exploration.

Basu (2020) defined research as a rigorous and methodical exploration or assessment, particularly aimed at discovering novel information within any field of study. Education is defined as the combination of all procedures by which an individual acquires practical skills, mindsets, and other types of conduct that are relevant to their society. Research aims to bridge gaps in information, resolve problems, validate theories, explore links, and cultivate fresh perspectives within an area of study. To ensure the reliability and validity of the findings, research requires a rigorous interpretation of information without bias, subjective ideas, and conventional notions. Research attitude points to an individual's inclination for research, discoveries, and curiosity about things or a specific subject. A constructive research attitude entails dedication, perseverance, open-mindedness, and commitment to extensive and careful investigation. Teachers' opinions on self-esteem and research initiatives are important in determining their growth as professionals as well as their teaching effectiveness. Therefore, educators have a duty to take on and carry out educational researchers' findings in order to tackle a classroom, the learners, or the teaching challenges, Tekin (2023).

Adopting a positive research mindset empowers educators to participate in constant professional growth and endless learning. Teachers who remain interested in and adaptable to new concepts may continually enhance their instructional methods, widen their foundation of expertise, and boost the quality of their instruction. This encourages educators to objectively assess educational concepts, teaching strategies, and monitoring systems by using experimental information and academic literature. Sobczuk et al. (2022) conducted a study to investigate the perspectives of students toward research. According to their discoveries, numerous students demonstrate a keen interest in research, actively participate in scientific endeavors, and have aspirations to further their professional paths in this field. The majority of students have an unfavorable perspective towards research. Medical universities should modify their curricula to meet the standards of both demographics and address the scarcity of physicians practicing in clinics while conducting research. Considering that colleges and university scholars around the world are increasingly projected to present research findings in highly esteemed publications for both personal and institutional growth, it is essential to comprehend educational institutions' research motivation and how it relates to research productivity in both global and local publications.

Many researchers are naturally motivated by an honest stake in the topic at hand and the eagerness to look into current problems, develop fresh perspectives, and contribute to the discussion of ideas within their fields.

Hunger for information and an innate capacity for intellectual stimulation led researchers to dig into complicated issues, dispute existing theories, and pursue greater clarity throughout various areas of endeavor. Research motivation differs by character and location, and is influenced by individual values, professional objectives, discipline standards, organizational settings, and wider societal issues. Zhou et al. (2022) used constructivist grounded theory to examine the research motivations of professors in teaching-oriented universities in tourism and hospitality. Researchers and colleges strive to achieve high levels of research output. Fostering high-quality research is vital to spreading expertise, strengthening research governance at institutions, and promoting the professional growth of scholars. Previous literature has not adequately addressed the motivation to conduct high-quality research.

In their study, Jei et al. (2024) investigated the efficacy of Chatbots in enhancing the development of scientific investigation abilities and motivation for academic achievement in postgraduate students. The research tools assessed students' proficiency in scientific research methods and referencing, and their level of enthusiasm for learning. The findings indicated a statistically significant disparity in the average scores of female students before and after the application, as determined by the significance level. Additionally, this outcome provided insight into the efficacy of chatbots in enhancing postgraduate students' scientific research skills, namely in scholarly methodology for research and scientific referencing. Furthermore, the existence of a significant disparity in the level of motivation to learn provides evidence of the efficacy of chatbots in fostering motivation to learn. Additionally, this indicates that students are satisfied with the utilization of chat bots in acquiring scientific research abilities. On the other hand, Sukoco et al. (2023) stated that productivity is the quantity and quality of academic output generated by researchers throughout a particular period of time, as evaluated by different indicators, such as publications, references, subsidies, trademarks, presentations, and other academic achievements. It represents academic scholarly involvement, impact, and efficacy in broadening expertise, solving questions related to research, and making significant contributions to their respective areas of research. Research productivity has grown into a primary measure employed by colleges, universities, and the government to enhance imaginative potential.

Educators play an important role in generating new information, enhancing academic journals, and advancing their expertise. Teachers may employ research to investigate critical obstacles to learning, address gaps and loopholes in understanding, and share the outcomes with the wider academic community as a whole. Educators who embrace research as an inherent part of their duties may provide major advances in the field of education and improve the learning experiences of students. Chen et al. (2022) investigated the challenges encountered by young scholars in the long-term growth of academic research, including the components that either promote or hinder the research productivity of younger scholars, as well as their early-career employment conditions in China. Their findings indicate that sustained research production is affected by individual characteristics, disciplinary qualities, organizational properties, and regulatory variables. Finally, recommendations are presented for formulating policies in colleges and universities and for enhancing the long-term advancement of research among emerging scholars in China. Additionally, possibilities for subsequent studies are examined and debated.

This study stems from its potential to provide research-based suggestions and insights as a basis developing a more effective faculty development research programme. Chinese universities frequently use research output as a metric of academic achievement. There have been observed gaps or issues in terms of lack of sufficient investigations on the aspect of research attitudes, motivation and productivity, particularly for Colleges in China. The issues involved in this area is lack of enough empirical data that would serve as guide for decision-making process of educators in China. Given the increasing emphasis on research output and academic excellence in Chinese higher education institutions, understanding the factors influencing research attitude, motivation, and productivity of university teachers is highly relevant and timely. This study may be inadequate in a solid theoretical framework that incorporates multiple elements that influence research attitude, motivation, and productivity. Understanding the relationships between different variables may be challenging without an exhaustive model. Failure to consider cultural and institutional factors unique to China may result in incomplete

or erroneous interpretations of the findings. This topic addresses a critical need in the context of China's evolving higher-education landscape. This study aimed to offer substantial support, encourage collaborative partnerships, and enhance academic efficiency among researchers and teachers in the particular locale of the study. This study may serve as a call to action to maximize the transformative potential of researchers by strengthening research attitudes, motivation, and productivity among Chinese university professors, with the objective of developing a more effective faculty development research plan. Additionally, this study may have the potential to provide positive aspects to school educators, administrators in educational institutions, and researcher-teachers. The empirical findings of this study may serve as an invaluable resource for enhancing research in educational institutions, not only in the locale of this paper of this study but also across the entire educational landscape of China.

Objectives of the Study - The purpose of this study was to investigate the research attitude, motivation, and productivity of the teachers in selected universities in China. Specifically, it aimed to: determine the respondents' research attitude in terms of university mission, research orientation, rewards and incentives, personal interest, and research utilization; Identified the respondents' research motivation in terms of extrinsic and intrinsic motivations; assess the respondents research productivity as to importance and impact; tested the significant relationships among variables research attitude, motivation, and productivity; and finally, based on the results of the study, proposed an enhanced faculty development research program.

2. Methods

Research Design - The descriptive method was used in this study. This was descriptive because it described the profile of the participants, as well as their research attitude, motivation and productivity. Nassaji (2015) defined descriptive research as a method employed to provide a detailed description of an occurrence, individual, or group of people, together with their features. The emphasis of this descriptive technique is about the study rather than on the causes of its activities.

Participants of the Study - Participants of this study were teachers from three higher educational institutions at the Hunan Province in China. There were 385 teachers from school A; 950 from School B, and 512 from School C. Out of the total and using the Raosoft calculator for sampling method, 450 teachers were chosen as samples. These teachers were those who have research experiences; those who were not exposed in research were not included in this study. The quantitative research method was utilized in gathering data for the study. Simple random sampling techniques was used to select the students to be surveyed.

Instrument of the Study - This study utilized a questionnaire with four parts to collect the needed data required. In Part I, respondents were asked to provide demographic information about themselves. This included their sex, age, highest educational attainment and years of research experience. Part II focused on determining the respondents' research attitude in terms of university mission, research orientation, rewards and incentives influence, personal interest, and research use/utilization wherein respondents were asked to rate their level of agreement on a scale ranging from strongly agree (4) to strongly disagree (1). The questionnaire was adapted from the study of Shah et al. (2018). In Part III, respondents determined their level of agreement regarding their research motivation in terms of intrinsic and extrinsic motivation using the rating scale measuring their level of agreement on a scale ranging from strongly agree (4) to strongly disagree (1) (Zhang, 2014). In Part IV, participants gauged their level of research productivity by identifying their level of agreement in terms of research importance, and impact (Chen et al., 2010). Respondents were asked to rate their level of agreement on a scale ranging from strongly agree (4) to strongly disagree (1).

The table shows that all sections of the instrument exhibit excellent levels of reliability. These results indicate that the instrument consistently measures the intended constructs and can be relied upon to provide accurate and consistent data. The questionnaire was derived from George and Mallery (2003). The Cronbach's alpha values suggest that the items in each section are interrelated and contribute to measuring the variables

effectively. Thus, the reliability of the instrument strengthens the credibility and legitimacy of the research findings. Reliability test of the questionnaires is indicated below:

Reliability Test Result

Indicators	Cronbach Alpha	Remarks
University Mission	0.903	Excellent
Research Orientation	0.934	Excellent
Rewards and Incentive Influence	0.923	Excellent
Personal Interest	0.941	Excellent
Research Use/Utilization	0.953	Excellent
Intrinsic Motivation	0.967	Excellent
Extrinsic Motivation	0.965	Excellent
Research Outputs	0.966	Excellent
Research Impact	0.961	Excellent

George and Mallery (2003) provide the following rules of thumb: “_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and _ < .5 – Unacceptable”

Data Gathering Procedure - The data gathering procedure in this study involved the collection of data from the respondents using a validated survey questionnaire with rating scales. The questionnaires were distributed to 500 university teachers using Google Forms. The research instrument was designed with the help of a research adviser and field experts. After the tool is approved, the researcher obtained consent from the school heads of the higher vocational colleges involved. A detailed explanation of the research was provided, including the objectives and possible ethical considerations. The questionnaires were distributed to the respondents upon approval. The data gathering procedure in this study involved the collection of data from the respondents using a validated survey questionnaire with rating scales. After gathering the data, the data were cleaned and excluded incomplete replies and any abnormalities that could potentially distort the results. Categorical data was used to code demographic variables, while attitude, motivation, and productivity scores were considered as continuous variables. The researcher checked for missing responses and input the data into SPSS software. The results were then tallied and the statistical treatment was applied for the study.

Data Analysis - Quantitative data analysis was used in this study to interpret the data. This approach employed numerical data, making it applicable to other domains through analysis methods like regression models or probability distributions. Weighted mean and rank were calculated to determine the research attitude, research motivation and research productivity among university teachers in China. Pearson’s r was used to test the significant relationships among variables research attitude, motivation, and productivity. All statistical analyses and data processing were conducted using SPSS version 26, a widely used statistical software package.

Ethical Considerations - To safeguard the privacy of respondents, the researcher refrained from disclosing any individual identities. The researcher ensured confidentiality on personal interactions with the participants, respected their privacy and obtained consent before accessing any sensitive information. The analysis was conducted in a manner that will prioritize the well-being of the participants and ensure that their data will be accurately represented in the study. The researchers abstained from expressing personal viewpoints and solely present information and findings derived from the collected data. Respondents were assured of the confidentiality of their responses and be informed that the survey will solely serve the purpose of this study. Furthermore, the study underwent a rigorous ethics review process and was granted approval.

3. Results and discussion

Table 1 presents the summarized results of the research attitude in terms of research use/utilization. According to the data, the respondents agreed with all the indicators, as evidenced by the composite mean of 3.06; research orientation has the highest results with a weighted mean of 3.18. This was followed by research use/utilization, with a weighted mean of 3.16; rewards and incentives influence, with a weighted mean of 3.01; fourth rank, personal interest had a weighted mean of 2.99; and on the final spot, university mission with a weighted mean of 2.94.

Table 1
Summary Table on Research Attitude in terms of Research Use/Utilization

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. University Mission	2.94	Agree	5
2. Research Orientation	3.18	Agree	1
3. Rewards and Incentives Influence	3.01	Agree	3
4. Personal Interest	2.99	Agree	4
5. Research Use/Utilization	3.16	Agree	2
Composite Mean	3.06	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 – 1.49 = Strongly Disagree

Integrating a strategic approach that incorporates research orientation, utilization, and reward/incentive may result in a more dynamic and impactful research environment. Integrating methodologies and perspectives from other fields to tackle intricate problems. Rewards and incentives have a substantial impact on motivating researchers and on influencing their conduct. Researchers who effectively transform their study into modifications to policies or practical uses may be granted honors, fostering a culture that greatly esteems the utilization of research. Kuchewar et al. (2020) implemented the ‘research orientation module’ in a workshop for undergraduate students in order to evaluate their perspective and progress in the area of proposal writing. Research plays an integral role in advancing scientific knowledge and is particularly critical in the field of health sciences. This helps us obtain a deeper understanding of the issues that impact the wellness of people, societies, and healthcare systems. Based on their findings, this study aimed to investigate the fundamental understanding of research among undergraduate students. It also evaluates the enhancement of proposal-writing skills in relation to their research orientation. Furthermore, Fink et al. (2023) examined the potential correlation between the moral orientation of business scholars and the occurrence of research misconduct, specifically, the deliberate disclosure of findings from studies. The subjects of ethical behavior and governance in academic research within the business domain have garnered scholarly and popular interest. There is a risk that research misconduct in institutions such as business colleges and universities could lead to practitioners, politicians, and researchers based on biased study findings.

Table 2
Summary Table on Research Motivation

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Intrinsic Motivation	3.08	Agree	1
2. Extrinsic Motivation	3.04	Agree	2
Composite Mean	3.06	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 – 1.49 = Strongly Disagree

Table 2 shows the summarized results of research motivation. The composite mean of 3.06 indicated an overall agreement among the respondents. Based on the results, intrinsic motivation had the highest turn out with a weighted mean of 3.08 whereas extrinsic motivation followed with a weighted mean of 3.04. The importance of research motivation, which includes both intrinsic and extrinsic factors, may not be overstated in motivating research and nurturing innovation. Institutions may create an atmosphere that promotes researchers’ desires, facilitates the attainment of high benchmarks, and promotes substantial contributions to their respective disciplines and society as a whole by comprehending and nurturing these motivations. Ensuring an enjoyable, efficient, and pleasant research experience involves maintaining a balance between inherent joy and enthusiasm for study and external rewards and acknowledgment.

Fishbach et al. (2022) provided a definition of intrinsic motivation, highlighting its crucial role in fostering persistence in the workplace. When individuals have intrinsic motivation, they perceive job activities as inherently valuable, in which the action itself and its objective align. The outcome is heightened interest and pleasure in labor tasks. On the other hand, extrinsic motivation refers to the inclination to participate in an activity with the aim of attaining an external objective such as obtaining recognition and approval (Rahman et al.,2022). The objective of the study by Abuzaid et al. (2023) was to obtain a complete understanding of the incentives that prompt radiographers in five Arab nations to participate in research. Overall, the participants

demonstrated minimal engagement in research-related activities across all five nations, especially in terms of exhibiting at meetings and writing peer-reviewed publications. Their research highlights the necessity of implementing specific measures to improve the level of involvement in research among radiographers in the Arab region. To cultivate a community of research-driven excellence in radiography, it is essential to overcome obstacles, such as limited time and resources. This can be achieved by utilizing intrinsic motivators such as professional development opportunities.

Table 3
Summary Table on Research Productivity

	WM	VI	Rank
1. Research Outputs	3.07	Agree	2
2. Research Impact	3.00	Agree	3
3. Research Impact (My research productivity has a high impact on)	3.18	Agree	1
Composite Mean	3.09	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 – 1.49 = Strongly Disagree

The summarized results of research productivity were shown in table 3. The composite mean of 3.09 indicated a general agreement among the respondents. The highest turnout was Research Impact (My research productivity has a high impact on), with a weighted mean of 3.18. This was followed by research outputs, with a weighted mean of 3.07. The last ranking item was research impact, with a weighted mean of 3.00. These factors have the agreement interpretation among the respondents.

In their study, Sukoco et al. (2023) highlighted that colleges, universities, institutions, and countries increasingly rely on research productivity as a key indication to bolster their innovation capabilities. This study specifically examined the research output of ASEAN countries, which are currently recognized as global economic centers. The results suggested that Singapore outperforms Malaysia in terms of publication quality, as measured by citations and patents, whereas Malaysia excels in terms of the quantity of scientific research. Remarkably, Indonesia has experienced the most significant increase in scientific publications. Vega et al. (2023) highlighted that the motivation behind academics' pursuit of technology and knowledge transfer has become a prominent study topic. Currently, there is a demand for a more comprehensive understanding of this matter. Policymakers and universities promote innovation and information transfer as integral components of a broader research agenda. They examined the many motivations of academics in achieving research impact on a small scale. Their focus was on the primary motives for pursuing an academic career, which are rooted in the fundamental psychological requirements of independence, skill, and resemblance. They also examined the resulting intrinsic or extrinsic motivations for making an effect through research, as well as the mindsets regarding institutional indicators that support this pursuit.

Table 4
Relationship between Research Attitude and Motivation

University Mission	r-value	p-value	Interpretation
Intrinsic Motivation	.711**	0.000	Highly Significant
Extrinsic Motivation	.671**	0.000	Highly Significant
Research Orientation			
Intrinsic Motivation	.520**	0.000	Highly Significant
Extrinsic Motivation	.520**	0.000	Highly Significant
Rewards and Incentives Influence			
Intrinsic Motivation	.351**	0.000	Highly Significant
Extrinsic Motivation	.408**	0.000	Highly Significant
Personal Interest			
Intrinsic Motivation	.623**	0.000	Highly Significant
Extrinsic Motivation	.638**	0.000	Highly Significant
Research Use/Utilization			
Intrinsic Motivation	.622**	0.000	Highly Significant
Extrinsic Motivation	.573**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 4 displayed the association between research attitude and motivation. The computed r-values indicated a strong direct correlation and the resulted p-values were less than the alpha level. This meant that significant relationships exist and imply that the better the attitude in research, the more that they are motivated. Having a positive research mind-set may strengthen motivation by cultivating an optimistic perspective, honing participation, and maintaining commitment. Researchers are more inclined to make important contributions when they understand the significance and objectives of their studies. A positive mindset enables individuals to appreciate the broader effects of their research in terms of increasing expertise, tackling problems in society, or launching new technology. Hernandez et al. (2022) provided a description of the perceptions and opinions that Peruvian students in the psychology professional program hold towards scientific research. The research methodology employed a quantitative approach utilizing a non-experimental design that encompassed both basic and field components. The disposition of university students towards scientific research served as a crucial indicator of the educational standard inside an institution and is essential for establishing the profession as a scientific field. The findings indicated that psychology students possess a negative disposition towards research. Similarly, they held a negative view of their self-evaluation of research abilities, the caliber of the teaching staff in research, and the university's efforts to promote research.

Table 5

Relationship between Research Attitude and Productivity

University Mission	r-value	p-value	Interpretation
Research Outputs	.613**	0.000	Highly Significant
Research Impact	.655**	0.000	Highly Significant
Research Impact (My research productivity has a high impact on)	.636**	0.000	Highly Significant
Research Orientation			
Research Outputs	.529**	0.000	Highly Significant
Research Impact	.526**	0.000	Highly Significant
Research Impact (My research productivity has a high impact on)	.486**	0.000	Highly Significant
Rewards and Incentives Influence			
Research Outputs	.432**	0.000	Highly Significant
Research Impact	.452**	0.000	Highly Significant
Research Impact (My research productivity has a high impact on)	.360**	0.000	Highly Significant
Personal Interest			
Research Outputs	.690**	0.000	Highly Significant
Research Impact	.655**	0.000	Highly Significant
Research Impact (My research productivity has a high impact on)	.616**	0.000	Highly Significant
Research Use/Utilization			
Research Outputs	.647**	0.000	Highly Significant
Research Impact	.634**	0.000	Highly Significant
Research Impact (My research productivity has a high impact on)	.606**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 5 showed the association between Research attitude and Productivity. The computed r-values indicated a strong direct correlation and the resulted p-values were less than the alpha level. This meant that there was significant relationship that existed and implied that the better is the attitude in research, the better is the productivity. The attitude of researchers has a significant impact on their motivation, behavior, and overall attitude toward their work, which then affects their productivity. Researchers who maintain an optimistic perspective towards research usually show an innate drive. This implies that people participate in research not solely for external incentives, but also because they find it mentally stimulating and gratifying. Academic institutions and leaders may have the ability to enhance research productivity by promoting and nurturing constructive academic attitudes in their organizations. To improve the sustainability of publications in Saudi universities, Ghabban et al. (2019) examined the views of academic staff regarding the utilization of ICT and other factors that could boost the efficiency of their scientific research. The study's outcomes revealed that institutional and individual factors, including satisfaction with work, university policy, IT capital, international relationships, and level of ICT implementation, influenced the research staff's views. This necessitates universities in Saudi Arabia to improve the longevity of their publications. In pursuit of these objectives, higher

education institutions seek to fulfill them.

Table 6

Relationship between Research Motivation and Productivity

Intrinsic Motivation	r-value	p-value	Interpretation
Research Outputs	.634**	0.000	Highly Significant
Research Impact	.729**	0.000	Highly Significant
Research Impact (My research productivity has a high impact on)	.680**	0.000	Highly Significant
Intrinsic Motivation			
Research Outputs	.601**	0.000	Highly Significant
Research Impact	.702**	0.000	Highly Significant
Research Impact (My research productivity has a high impact on)	.682**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 6 presented the association between research motivation and productivity. The computed r-values indicated a strong direct correlation and the resulted p-values were less than the alpha level. This meant that there was significant relationship exists and implies that the more motivated in research, the better is the productivity. Motivation is the force behind the diligence, attention, and tenacity needed to generate exceptional quality research. This aids researchers in addressing these obstacles and challenges. Challenges such as unsuccessful experiments, rejection of manuscripts, and obtaining funds are frequently encountered in the field of research. Determined researchers are more inclined to persist and discover solutions, sustaining their efficiency, even when confronted with challenges. Masinde et. al.,(2023) introduced a research incentive structure for academic staff members at South African technology universities. The findings indicated that intrinsically driven researchers pursue research primarily for the inherent gratification it provides, since it fulfills their fundamental psychological thirst for proficiency. Current research rewards and performance systems do not effectively stimulate intrinsic motivation. Suggestions for a structure to construct research incentive systems focused mostly on the scholars themselves. The main element driving motivation among researchers is their independence, which refers to their freedom to work autonomously. Additionally, accessibility of resources, collaboration with colleagues, and the opportunity to enhance research abilities are key characteristics that contribute to intrinsic motivation.

Table 7

Proposed Enhanced Research Development Plan

Key Result Areas	Objective/s	Strategies	Success Indicators	Persons involved
I. Research Attitude 1.1 University Mission	1. To guarantee that researchers are provided with adequate funding for their studies. 2.To promote interdisciplinary research initiatives and foster collaboration across various departments and organizations	1. Conduct frequent workshops and seminars focusing on diverse research skills such as methods, analyzing information, academic writing, and making use of cutting-edge technology. 2. Facilitate collaboration between novice researchers and seasoned mentors to offer orientation, advice, and sharing of experience.	1. 90% of teachers are fully enticed to start their research works 2. 90% of teachers to have a full understanding of what is expected of them before, during a research study 3. 90% of teachers are motivated to consult and seek advice from tenured faculty members to share research experiences	Administrators and Faculty Members
	1. To promote the allocation of internal grants and assist teachers in seeking outside funding to support their research endeavors.	1. Set forth a research incentive scheme aimed at offering financial and professional rewards to teachers who actively participate in research initiatives and generate exceptional research outcomes.	1.90% of teachers are willing to participate in the research incentive program organized by the university 2. 90% of teachers are motivated to engage in research studies and produce quality outputs	Administrators and Faculty Members
Research Motivation 2.1 Extrinsic	2. to designate regulated periods within the faculty schedules exclusively for research activities without any teaching or administrative responsibilities.	1. Grant teachers the opportunity to access wellness programs and psychological resources to enhance their overall well-being. 2. Construct or designate innovative laboratories wherein teachers can explore new ideas and methods within a supportive environment.	1. 90% of teachers are able to produce and publish research outputs. 2. 90% of teachers are looking forward to their time for research.	Administrators and Faculty Members
2.2 Intrinsic				

Research Productivity	1. to promote the widespread distribution of research findings to a wider audience with a focus on highlighting the practical significance of their work.	1. Develop research clusters or affinity groups centered around common research subjects to promote teamwork.	1. 90% of teachers are able to express themselves and identify their progress and shortcomings.	Administrators and Faculty Members
3.1 Receiving Tenure	2. to administer polls or facilitate discussions to learn about the existing hurdles to study motivation and pinpoint opportunities for development.	2. Create an accessible application that teachers can access to record their progress during the research.	2. 90% of students are eager to work on their setbacks and follow through with their successes.	
3.2 Getting better salary		1. Regular check-ins to gather feedback from teachers on their challenges on their research	1. 90% of teachers are able to confidently express themselves and relate their experiences.	Administrators and Faculty Members
3.3 Getting a chaired professor-ship		2. Provide constructive feedback as to how the teachers are able to improve the quality of the research outputs.	2. 90% of teachers are able to show improvements on the quality and quantity of their research based on the feedback and assessments.	

4. Conclusions and recommendations

Most of the respondents agreed on factors affecting the research attitude in terms of research orientation, rewards influence, personal interest, university mission, and research use. Most of the respondents had positive impressions on factors affecting extrinsic and intrinsic motivations. Most of the respondents agreed on factors affecting research productivity as to importance and impact. As to the relationship among research attitude, motivation, and productivity, findings showed highly significant relationship. This implies that they are interdependent and mutually reinforcing. A research development plan for university teachers in China was proposed to enhance research attitude, motivation, and productivity.

University officials may incorporate research initiatives into their academic curricula to enable faculty members to effectively immersed themselves into production and publication of more research. University officials may mandate research as a prerequisite for teachers to ensure that they remain current with innovative ideas, and simultaneously deepen their expertise in their respective fields. Research coordinators may conduct regular assessments and reflective discussions on research projects to assist in addressing challenges promptly and guarantee that teachers achieve and comply with the academic goals of the university. Research directors may establish and maintain strong partnerships with a diverse range of scholars both within and beyond the university. Universities must swiftly collect input from teachers and the research community to consistently improve the quality and framework of their research programs. University administrators may implement a system of enticing rewards, perks, or accolades for faculty members who successfully publish research papers, boost their motivation, and drive them to increase their output. To guarantee that teachers' goals and objectives are in line with those of the university, it is important to provide them with thorough and concise instructions. The school administrators may consider the proposed enhanced research development plan to be executed and assessed for its efficacy. Future researchers may conduct studies focusing on expanding the target audience beyond Chinese university professors and incorporating comparative evaluations to enhance research attitude, motivation, and productivity. This may involve faculty members with various cultural and academic backgrounds.

5. References

- Abuzaid, M. M., Tamam, N., Elshami, W., Ibham, M., Aljamal, M., Khayal, S., ... & Pedersen, M. R. V. (2023, October). Exploring radiographers' engagement in research: motivation and barriers in five arab countries. In *Healthcare* (Vol. 11, No. 20, p. 2735). MDPI.
- Basu, M. (2020). Importance of research in education. Available at SSRN 3703560.
- Chen, H. C., & Pang, N. S. K. (2022). Sustaining the ecosystem of higher education in China: Perspectives from young researchers. *Perspectives in Education*, 40(3), 95-117.
- Fink, M., Gartner, J., Harms, R., & Hatak, I. (2023). Ethical orientation and research misconduct among business researchers under the condition of autonomy and competition. *Journal of business ethics*, 183(2), 619-636.
- Fishbach, A., & Woolley, K. (2022). The structure of intrinsic motivation. *Annual Review of Organizational*

- Psychology and Organizational Behavior, 9, 339-363.
- Ghabban, F., Selamat, A., Ibrahim, R., Krejcar, O., Maresova, P., & Herrera-Viedma, E. (2019). The influence of personal and organizational factors on researchers' attitudes towards sustainable research productivity in Saudi universities. *Sustainability*, 11(17), 4804.
- Jei T.Al-Rahili R.Al-Farani L. *International Journal of Educational Sciences and Arts* (2024) The Effectiveness of Chatbots in Developing Scientific Research Skills and Motivation for Learning among Postgraduate Students
- Kuchewar, V., Desai, P., Sawarkar, G., Umate, R., & Choudhari, S. S. (2020). Effect of Introduction of 'Research Orientation Module' in Ayurveda Undergraduates. *Int J Cur Res Rev* | Vol, 12(22), 82.
- Masinde, M., & Coetzee, J. (2023). Modelling research productivity of university researchers using research incentives to crowd-in motivation. *International Journal of Productivity and Performance Management*, 72(5), 1509-1530.
- Rahman, A., & Islam, M. (2022). Nexus between Motivation and Newly Appointed Employee's Job Performance: A Review on Intrinsic and Extrinsic Incentives. *Asian Journal of Social Sciences and Legal Studies*, 4(2), 32-38.
- Sobczuk, P., Dziedziak, J., Bierzowicz, N., Kiziak, M., Znajdek, Z., Puchalska, L., ... & Cudnoch-Jędrzejewska, A. (2022). Are medical students interested in research?—students' attitudes towards research. *Annals of Medicine*, 54(1), 1538-1547.
- Sukoco, B. M., Putra, R. A., Muqaffi, H. N., Lutfian, M. V., & Wicaksono, H. (2023). Comparative study of ASEAN research productivity. *SAGE Open*, 13(1), 21582440221145157.
- Tekin, O. (2023). The mediating role of teacher self-efficacy in predicting teachers' research attitudes. *Teacher Development*, 27(3), 314-332
- Vega, A., Gabbioneta, C., Osorio, C., & Cunningham, J. (2023). A micro-level study of research impact and motivational diversity. *The Journal of Technology Transfer*, 1-44.
- Zhou, T., Law, R., & Lee, P. C. (2022). "What motivates me?" Motivation to conduct research of academics in teaching-oriented universities in China. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 31, 100392.

